POLITICAL DEVELOPMENT AND ECONOMIC AND SOCIAL GROWTH

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United States Operations Mission
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P O L I T I C A L D E V E L O P M E N T

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E C O N O M I C A N D S O C I A L G R O W T H

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PART I

A Theory and Analysis of Successful Political and Economic Development

There is now growing up a new approach to one of the major problems of American foreign policy, specifically, our "foreign aid" policy: How can the United States help the poor countries succeed in development and prosper as part of the free world? How can we help these countries prevent the social disintegration within their boundaries which has led us from one military adventure to another, culminating in the agony of Vietnam, and led some of us to despair of success in our efforts to help the poor countries help themselves.

The relatively slow progress in development in nearly all of the poor countries during the last two decades, the inability of so many of them to develop reasonably strong and stable government these problems continue. Hence, the ability of those who seek solution through violence rather than through peaceful means to find a receptive audience. Many Americans, aware of the continuing difficulties in the under developed world, are now persuaded that in the past twenty years we have not been using the ideas and policies which would successfully help the poor countries solve these crucial problems; further, that our use of military force is not alternative solution but more tragic and more costly failure. Better ideas and policies are needed.

However, the exponents of the new development theory see in a situation which is generally discouraging a most significant fact - because of successful development rapid progress toward the resolution of these problems is actually taking place in a small number of countries. A few modern islands are emerging from the sea of subsistence. Four of these, Puerto Rico, Taiwan, Egypt, and Yugoslavia will be discussed in Part I of this study. Their performance during the past two decades and the performance of six other successful countries is examined in more detail in Part II.

The origin of the new approach to development lies in an effort to understand the radical difference between the success of these few and the failure of so many. Because the new approach emphasizes the importance of political ideas in addition to economic ideas in the modernization process it is sometimes called "political development". A democratic strategy of "political development" was endorsed by our Congress in an amendment to the Foreign Assistance Act of 1966. This amendment is still not much more than an expression of intention because there is not yet a consensus on the content and strategy of "democratic development". The goal has been established, but the means of achieving it are still unclear.

The theory of political development involves a two-fold distinction. The first is the distinction between "traditional" and "modern" governments. The second is a distinction between competing political philosophie and types of <u>modern</u> government.

The distinction between traditional and modern governments is explained in this way: Most of the people in a country, <u>regardless of their social origin</u>, must be organized and trained to use modern technology and allowed to innovate on their own initiative according to their own decisions if a country is to achieve both a high rate of economic growth and a reasonably stable, cohesive society. Modern governments are those which are willing to reorganize and modernize the social structure of a subsistence society in order to involve the mass of the people in the use of

modern technology. Traditional governments are those which have retained the social structure of a subsistence society and have tried to encourage economic growth within it. In the latter, local and individual initiative are stifled, not stimulated. Innovators are chosen by traditional ruling elites. For the most part, they choose themselves. New opportunities are limited and controlled by the government. Most of the governments of the developing countries, no matter what their form, are traditional governments in substance.

In the theory of political development, the first distinction, that between modern and traditional governments, is used to explain why and how the four countries named above are succeeding in development whereas progress toward both economic improvement and social stability in most of the poor countries has been disappointing.

The second distinction is used to explain how the same phenomenon, successful development, can be found in countries with such radically different political systems as Puerto Rico, Egypt, Taiwan, and Yugoslavia. The second distinction is the easier for us to understand because we generally realize that modern technology is apolitical and has been used successfully by countries with very different forms of government. We know that Puerto Rico is democratic, not because the island Commonwealth has learned how to use modern technology, but because former Governor Munoz and his fellow modernizers were democrats; similarly, we know that Yugoslavia is communist because Tito and his fellow modernizers are communist. Sometimes however, we fail to apply what we know. In the administration of foreign aid programs we have forgotten the importance of the second distinction. We have been trying instead to transform traditional societies into modern democracies primarily with economic ideas and without significant change in their social structure.

The first distinction is perhaps the more useful because it enables us to explain the success of the modern authoritarian states and the relatively poor performance of the large number of countries which call themselves "democratic" but which, in truth, are ruled by traditional governments. They happen to be popularly elected, and appear to be democratic because a few of the forms of democracy, including elections, have been introduced at the top. The first distinction also requires us to admit a tragic irony of the twentieth century: that it is the modern authoritarian governments which understand the importance of organizing people, of giving them a sense of participation in a great and seemingly inevitable national cause.

We democrats think of authoritarian governments as highly centralized, issuing orders from the national capitol which the people have no choice but to obey. By democratic standards this is true. But the comparison which is relevant to the problem of development, and the first point which we must understand, is not the comparison between the Western democracies and the modern authoritarian states but the comparison between modern authoritarian governments and traditional government. The essence of the difference is that the modern authoritarian governments create some roots at the local level in order to organize the mass of the people for whatever purpose they select as their "cause". Traditional governments do not establish such roots. Thus, in the modern authoritarian states the mass of the people who have long lived in obscurity believe they have some opportunity, some sense of individual identity, some sense of belonging to a national community. However circumscribed these feelings may seem in a modern authoritarian state in comparison to a modern democracy, they nevertheless exist to a greater degree in a modern authoritarian state than in a traditional society, where they hardly exist at all. "In traditional civilizations, for the

most part, the overwhelming mass of the population is non-mobilized... They remain a mass because they lack means of communicating with the government, and the government in turn cannot reach the mass. For the most part they lead their lives apart, but not alienated, from government".*

In this essay we shall try to explain why it is not possible to achieve rapid economic growth within the existing structure of the traditional societies and why the problem of loyalty cannot be solved in countries where "marginal people have no names".** We shall also try to counter a view which is now found in American academic circles. The relative success of a number of modern authoritarian governments and the seemingly endless difficulties of developing countries that have certain of the forms of democracy have persuaded some students of development that democracy may not be an effective form of government in the poor countries during their early stages of development.*** However, there is no reason for such gloom. Israel and Puerto Rico have been successfully following a democratic strategy of democratic development for two decades. Taiwan and South Korea have made some progress in moving toward an open society.+ Are there lessons to be drawn from their experience which might have universal application? In order to answer these questions we shall review the record of the past twenty years and its impact on the United States, consider the crucial importance of political ideas in development, and examine at greater length the distinction between traditional and modern governments.

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When the age of development began two decades ago high hopes were expressed for the future of both democracy and economic growth in the more then 100 countries of Asia, Latin America, and Africa which make up the underdeveloped world. Since many of these countries had been colonized the first step was to free them from colonial rule. The second step came to be called "economic development".

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* Fred W. Riggs, "Administration and a Changing World Environment", a paper delivered at a conference of the American Society for Public Administration, Boston, Mass., March 29, 1968, pp. 14-15.

** Carolina Maria de Jesus, "Child of the Dark", New York, E.P. Dutton, 1962.

*** See, for example, David E. Apter, "The Politics of Modernization", Chicago, University of Chicago Press, 1965. Robert L. Heilbroner, who is quoted several times in this study, shares the same view.

+ The lexicon of political science needs to be expanded if single words are to be used as accurate descriptions of some of the developing countries. It is clearly too much to claim that Taiwan and South Korea are "as democratic" as the Western democracies. But neither are they "as authoritarian" as, say, pre-war Japan. They are somewhere between the two, but there are no words in common usage which describe them.

It was thought by many, including the governments of the United States and the other democracies, that economic progress would help the developing countries become democratic. National governments would be strengthened. The highly personalized politics of the poor countries gradually would be stabilized as they developed their own institutions to guide their own destiny. As ordinary people realized they were benefitting personally from development activities, they would find reasons why they should support governments which sponsored those activities. They would also find reasons why they should ignore, or, if necessary, oppose, those who encourage solution by violence and insurrection. The role of the Western countries in helping the poor countries - usually called "foreign aid" - would be temporary.

In linking economic goals to political aspirations, the late Prime Minister Nehru once said, "I think nothing has happened in any country in the world in the past few years so big in content and so revolutionary in scope as the community projects in India".* He was speaking of India's rural development program. He believed this program would enable India to achieve an agricultural revolution. More than this, Nehru hoped this program would create the same kind of free society in rural India which prompts us to say of our own country that democracy began in the New England town meeting. Nehru's hopes have been echoed by the governments of rich and poor countries alike, including the American government.

However, the course of events in the underdeveloped world remains disorderly and volatile.

With respect to economic and social progress: After twenty years of agricultural development programs sponsored by the poor countries and supported by the numerous aid agencies, many experts now warn of a possible world-wide food shortage in another decade or two. Yet, technologically speaking, there could be food in abundance. Yields per acre in the developing countries are as low as one third or one fourth, sometimes only one tenth, of yields per acre in the rich countries. In some of the crowded Asian countries rice productivity today is no higher, or only marginally higher, than forty years ago. Yet three of them, Japan, Taiwan, and South Korea, have already demonstrated that rapid technological progress is possible in Asia n societies.

Rice Yields, 1924 - 1966
(pounds per acre)

	1924-28	1934-38	1948-50	1964-66	Change
Japan	3110	3240	3836	4476	1366
India	1260	1210	990	1250	-10
Philippines	1060	970	1057	1162	102
Thailand	1610	1400	1193	1455	-155
Indonesia	1350	1410	1434	1621	271
Taiwan	1860	2190	1839	3326	1466
South Korea	1530	2010	2417	3753	2223

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* Quoted in Brahmanda Mukerji, "Community Development in India", Calcutta, Orient Longmans, 1961, p. 18.

Yet, during the same period that the spectre of famine has risen in many of the poor countries, Taiwan, Egypt,* and Yugoslavia have achieved the kind of progress in agriculture which is called agricultural revolution. Yields per acre are approaching the level of yields per acre in the developed countries and are still rising.

Most of the people in the poor countries do not yet belong to what is sometimes called the "national market".** Villagers consume most of their own production. The products which they do buy and sell are mostly products of local markets and local, traditional methods of production. Their contacts with the technology and products of a modern economy are infrequent and involve a small proportion of their total income. By contrast, farmers in Taiwan, Egypt and Yugoslavia are beginning to live in durable houses, not flimsy huts. Many have electricity, water, and adequate sanitation. They own some durable goods such as bicycles, radios and household equipment. They can afford better education and better medical services. Partly because of increasing buying power among the large rural population, the rate of increase in manufacturing output in these countries is roughly double the rate of increase in most of the developing countries.

The indicator of economic progress that comes closest to summarizing all the others is per capita income. Since 1950 the very low per capita incomes of the developing countries have increased by as much as one half in only a few of them. In the four countries named above per capita incomes have been increased by two times and more. If, for the sake of illustration, we assume that the rate of increase in per capita income in Taiwan and India between 1950 and 1966 will be continued through the rest of this century, by the year 2000 per capita income in Taiwan could be as much as seven times higher than in India. Yet the two countries started from approximately the same base in 1950, less than $100 per person.

During the period that the "population explosion" has become a subject of major concern, the birth rates in Taiwan, Puerto Rico, and Yugoslavia have been declining steadily. The decline started before the advent of "family planning" programs and is still underway. Apparently there is some relationship between political development and the incentive for family limitation.

A few countries, such as India and Pakistan, are becoming so heavily indebted that either the amount of external assistance will need to be increased so that they can meet repayments on foreign loans, or else the payment dates of past loans will need

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* The story of Taiwan's success is now well known in Western countries. Egypt's is less well known because Nasser's form of government, his anti-Israeli policy, and his flirtation with the communists are not popular in the West and have dampened interest in his domestic programs. Egypt ranks first among the developing countries in agricultural productivity. Taiwan is second. The difference between the two is largely natural - the Nile delta is somewhat morefertile than the coastal plains and foothills of Taiwan. Thus, a pound of fertilizer in Egypt will produce a greater increase in crop production than a pound of fertilizer in Taiwan. Egypt also ranks first in the rate of increase in manufacturing output. In some other respects, however, Egypt's record is uneven. She has yet to achieve the kind of "progress in everything" which probably makes Taiwan the most successful of all the developing countries.

** This phrase, when used with reference to the developing countries, is generally associated with the name of Walt W. Rostow, who began using it in the late 1950s.

to be expanded. This is surely the reductio ad absurdum of foreign aid.*

By contrast, Taiwan, Yugoslavia, and Puerto Rico have been able to multiply their exports so rapidly they are now able to pay their own way in the international community.

With respect to political development the record of the past twenty years is equally discouraging. The governments of the developing countries are overthrown so frequently that this period in history might be called the age of coups d'etat. The military officers, who are frequently the group that takes control of the government, defend their actions, in part, by arguing that the ousted government failed the nation in the task of development.

Thus, the record of two decades stands in melancholy contrast to the high hopes expressed when the age of development began. Contrary to the expectation that development would strengthen democracy, from the long roster of poor countries and places there are only two which have become both democratic and developed economically - Israel and the Commonwealth of Puerto Rico.

If the twentieth century were tranquil, perhaps we need not be unduly concerned about this unimpressive performance. But this century is neither tranquail nor leisurely. The ideas which transformed the once feudal West are now stirring men's minds everywhere. In the developing countries, some people, frustrated by the slow pace of progress, are turning away from democracy and peaceful solution to violence and coercive solution - usually communism or military dictatorship - as the way of achieving the revolution of rising expectations.

Further, the problems created by the uneven and disappointing progress in both the political and economic areas are by no means confined within the boundaries of the developing countries themselves.

The lack of solution to problems that were expected to be solved through political and economic development has involved the Western democracies in a series of foreign crises and adventures to which there still appears to be no end in sight. Our own country, as leader of the free world, has been the most involved of all.

We prefer to help the developing countries with money and expert advice. But in the past twenty years our government, unilaterally or through the United Nations, has felt obliged to intervene in the internal affairs of a number of countries - Korea, Guatemala, Lebanon, Cuba, the Congo, Laos, the Dominican Republic. The other democracies sometimes have intervened with us, or supported United Nations peace-keeping operations, or fought their own battles, as the British in Malaysia.

That the policy of the Western countries has been noble in purpose is true. But that noble purpose has now culminated in the anguish of Vietnam. That anguish has caused many people to question whether this policy should be continued, or whether its objectives can be attained in a reasonable period of time at a reasonable cost. Some ask whether the United States and the other democracies possess the capacity to administer foreign aid programs which are effective instruments of political as well as economic progress in societies which are vastly different from our own in religion, culture, and tradition? The notion that we might achieve objectives through military intervention which we have failed to achieve through "foreign aid" and other peaceful

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* This curious situation has already occurred several times, in Turkey and Brazil, for example. When it happens, the Western countries help the poor country rearrange its debt structure in order to avoid bankruptcy.

programs is no longer credible to much of the American public, especially if there is some doubt whether the governments we help really believe in freedom. Some people also are questioning whether we should try to help faraway places at the cost of delay in the solution of urgent domestic problems which, complex as they are, nevertheless seem more amenable to solution than the internal problems of other countries.

However, the answer lies neither in massive military intervention nor withdrawal in despair. What we need to do is reconsider the nature of the problem we are trying to help the poor countries solve, and which only a few seem able to solve - the process of building a relatively stable society in which citizens are loyal to their central governments and which are capable of relatively rapid, self-sustained economic growth.

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An American author once wrote that "when, in a hypothetically sane universe, a problem proves insoluble by the exercise of sanity, it is usually because it has been stated in mistaken terms".* The difficulty is not that the problem of the poor countries, including the problem of loyalty, cannot be solved through development. The difficulty is that the problem of development has been "stated in mistaken terms".

The expectations of twenty years ago were expressed in broad politico-socio-economic terms, such as Nehru's statement quoted above. Students of development have agreed with these broad expectations. Governments and aid agencies have endorsed them as official policy.** However, the route to these expectations has been expressed primarily in economic terms.

Both the developing countries and the aid agencies have assumed that economic progress is the critical component of development. Rising GNP, we have been told through the years, leads to a better life for the people, helps to moderate strains and conflicts in the political system, and strengthens democratic institutions. Apparently these desirable results are to happen in some more or less automatic way. While economic growth is planned in great detail in the universally popular "Five Year Plan", planning for social and political development is rare.

The economic ideas which underlie the conventional wisdom of development described above are well known and need not be repeated here. And they are a valid expression of the economic aspect of the development problem. But can economic ideas alone be used to solve all the problems of agricultural development if rural society is essentially feudalistic in structure? or give power to local governments which are almost powerless? or induce the corrupt to become honest? or strengthen the rule of law in societies where ruling elites traditionally believe that the rule of law should apply to the mass of people who are their social inferiors, but not to themselves? or persuade agricultural extension agents to work with farmers as equals instead of talking

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* Archibald MacLeish

** For example, the Foreign Assistance Act states that the United States should "assist the people of the less developed countries... to build the economic, political, and social institutions which will meet their aspirations for a better life, with freedom, and in peace".

down to them, as is their custom? or enable ordinary people to build their own homes if they cannot obtain a clear title to land on which to build them? or create an efficient system of government administration? or create farmers' organizations where none exist?

These problems are common throughout the underdeveloped world. If they are not primarily problems of economics, can they be solved primarily with economic ideas? The evidence of the past two decades suggests that they are not being solved by treating development principally as a problem of economic ideas. One student of development summarizes this argument, "...the process called 'economic development' is not primarily economic at all. We think of development as a campaign of production to be fought with budgets and monetary policies and measured with indices of output and income. But the development process is much wider and deeper than can be indicated by such statistics. To be sure, what in the end is hoped for is a tremendous rise in output. But this will not come to pass until a series of tasks, at once cruder and more delicate, simpler and infinitely more difficult, has been commenced and carried along a certain distance... The trouble is that the social physiology of these nations (the developing countries) remains so depressingly unchanged despite the flurry of economic planning on top... The all-encompassing ignorance and poverty of the rural regions, the unbridgeable gulf between the peasant and the urban elites, the resistive conservatism of the village elders, the unyielding traditionalism of family life - all these remain obdurately, maddeningly, disastrously unchanged..."*

There are two quite different ways of explaining the paramount importance of political ideas in the development process.

In considerable measure men are molded by their institutions. If the institutional structure of traditional society does not create the attitudes or permit the activities which are needed for the efficient use of modern technology, then that institutional structure must be changed. To quote Heilbroner again, "...development is much more than a matter of encouraging economic growth within a given social structure. It is rather the modernization of that structure; a process of ideational, social, economic, and political change that requires the remaking of society in its most intimate as well as its most public attributes".** The "modernization of that structure" cannot take place without using the power which only governments possess.

It is true that it is modern technology, and not political ideas, that can increase production. It is equally true, however, that governments have had to invent new laws and institutions to enable a society to use modern technology efficiently. Our system of money and banking, the market, the law of contracts, the corporation, the law of property, local government, savings and credit systems, the cooperative, the trade union, the professional association - these and many other laws and institutions are just as much inventions as the steam engine or the iron smelter. They are just as necessary for development as the products of the assembly line.

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* Robert L. Heilbroner, "Counterrevolutionary America", Commentary, April, 1967.

** op. cit.

Government action is needed if these inventions are to be put to use in the underdeveloped countries. Either governments must act directly, or else, as is common in the Western democracies, they must authorize private persons or groups to act. However, these legal and institutional inventions cannot be equated with any particular set of political ideas. Not only the Western democracies, but the communists and a number of other authoritarian states have learned how to adapt them to their differing political systems and to use them for the production of material goods.

The second way of explaining the importance of political ideas in the modernization process is to consider the psychological outlook of the mass of the poor who happen to be born into traditional societies. John Adams, in describing the problem, of feudal European origin, which our own Founding Fathers were trying to solve, expressed it this way: "The poor man's conscience is clear; yet he is ashamed... He feels himself out of sight of the others, groping in the dark. Mankind takes no notice of him. He rambles and wanders unheeded. In the midst of a crowd, at church, in the market...he is in as much obscurity as he could be in a garret or cellar. He is not disapproved, censured, or reproached; he is only not seen. To be wholly overlooked and to know it, it intolerable".*

People cannot be expected to innovate and invest and be loyal to their central governments if they feel "overlooked", if they feel no sense of belonging to the society in which they are born, if they feel that ruling elites regard them as nameless, marginal masses. Thus, the most fundamental part of the problem of development is nothing less than the role of man in society. Insofar as government influences the role of man, the problem, it hardly needs to be said, is the subject of political, not economic, ideas.

In practice the first premise of political development is a combination of the creation of the legal and institutional structure of a modern society and the extension of some sense of dignity to people as individuals. The second premise of political development tells us whether this sense of dignity is the "respect for the preciousness of human life"** which is the basis of democratic political theory, or whether it is the limited sense of dignity which the modern authoritarian states have learned how to extend. The manner in which modern authoritation states extend limited dignity, and the inability of traditional governments to do the same, requires further discussion of the first premise of political development.

To restate the first premise: Most of the people in a country, regardless of their social origin, must be organized and trained to use modern technology and allowed to innovate on their own initiative according to their own decisions, if a country is to achieve both a high rate of economic growth and a reasonably cohesive, stable society. As Heilbroner maintains, this requires the modernization of the traditional social structure. In that traditional structure most of the people are not organized and trained to use modern technology and are not supposed to exercise their own initiative. "What can we do about it?", or, "the government should do something about it" - these statements represent the psychology of village life in traditional societies.

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* "Discourses on Davila Works", Boston, 1851, vol. vi, pp. 239-240

** Alfred North Whitehead, "Adventure of Ideas", Penguin Edition, p. 103.

This first premise means that the mass of ordinary people must be trusted to innovate and to make decisions, even if they are uneducated and illiterate, superstitious and fatalistic. The illiterate are not always ignorant. The uneducated are not always unwise. If today's developing countries are to improve their economic condition, these people must be brought into the process of development now, just as they were brought into the process in the Western democracies a century and two ago, just as they have been brought into the process in this century in the modern authoritarian states.

The particular and diabolical genius of the modern authoritarian states is their ability to both trust and control simultaneously, to be permissive in some areas and arbitrary in others. They have learned how to control political thought and action and yet offer to those who have been "wholly overlooked" more dignity and opportunity and participation than exists in traditional societies. A subsistence farmer or an urban slumdweller cannot be expected to see and evaluate this kind of limited dignity and limited opportunity in the context of democratic political ideas, such as the rule of law and due process. He has almost never had a chance to learn about modern political ideas and the differences between modern democracy and the several forms of authoritarianism, or the ways in which modern authoritarian governments pretend to be free. Rather, he considers whether his personal position and economic prospects are better than they were in the old society. This, in a recent book on development a farmer in one country is quoted as saying, with reference to land reform and subsequent rural development programs, "We gained dignity and independence for the first time. I now own ten acres. I am my own boss and doing well".* We democrats want to associate such words as "dignity" and "independence" and the idea of being one's own boss with the ideas of a free society. In fact, this particular farmer is an Egyptian, comparing his former status in traditional society with his new status in a society of limited opportunity. He has recognized both political and economic benefits for himself, but he clearly is not yet concerned about questions of national government and policy and leadership.

Effective, decentralized authoritarian systems actually pre-date the modern socialist and communist states. The farmers' organizations of pre-war Japan can be taken as one example of the kind of functional, local organization that is found in the modern authoritarian states. This type of organization has been effective in organizing and training people to use modern technology and in giving to them limited power of decision over local affairs while still excluding them from participation in national affairs.

Within the framework of national agricultural development policies the farmers' organizations of Japan were given the authority over operational decisions needed to translate national policy into local action. In addition to planning and carrying out crop production programs, they participated in Japan's heavy investment in local public works - farm-to-market roads and small scale land improvement projects. They maintained their own budgets. They were given control over savings and credit and allowed to build up their own funds for investment. They were allowed and encouraged to participate in storage, marketing, and distribution so that farmers earned income from these economic activities as well as from production.

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* Quoted in William McCord, "The Springtime of Freedom", London, Oxford University Press, 1964, p. 91.

In addition to supporting farmers' organizations Japan also stimulated the development of what nowadays is called "small business". Many of the entrepreneurs of non-agricultural economic activities that grew up in the prospering rural economy were new entrepreneurs. Many were farmers who continued to till their small farms while also working in non-farm jobs.

Thus, in 1930, some sixty years after the beginning of the modernization process in Japan, two thirds of the labor force in manufacturing and construction lived in towns with fewer than 30,000 people or in villages. Half of the workers in commerce and transport worked in market towns, not the large metropolitan centers. For a fourth of the farm families industry actually exceeded agriculture as a source of income. More than half the adult members of farm families held some non-agricultural job and spent one fifth of their working time on these jobs.*

Thus did the central government of Japan carry development into the countryside, giving to the local people some power of decision over local development programs and limited authority to innovate. And yet these people for whom some new opportunities were created deliberately were not supposed to participate in "politics". That is, they were not supposed to run for elective office except in their own local organizations. They were largely and deliberately excluded from considerations of national policy or the selection of national leaders.

Japan carried to Taiwan and South Korea the policies and institutions she had developed at home. The now famous Farmers Associations of Taiwan were actually initiated by Japan several decades before World War II.

More recently, Nasser has supported the pre-war Japanese, or authoritarian, type of farmers' organizations in Egypt. That these organizations are essentially self-governing is part of the reason why the farmer quoted earlier expressed a feeling or "dignity" and "independence".

On the other hand, none of these countries has used democratic, local self-government as an institution for training and organizing people because it would give them greater scope to participate in political affairs. In Egypt, for example, the candidates for her limited local councils are either selected or approved by central government authorities. No such stringent control is exercised over the choice of officers in the farmers organizations.

Local planning organizations are not unknown even in the communist countries. In Yugoslavia, for example, local planning is organized through a non-political committee system at the level of what we would call the county, of which there are 581 in the country. Their function is to plan and carry out local development activities in a number of fields which are traditional functions of local government in the democratics, such as rural road networks, land improvement, public health, building codes, education, vocational training. To these the communists add industry, housing and some other economic activities which are mostly in the private sector in the democracies.

To give one last example of the role of local organizations in the modern, authoritarian methodology - the capacity of the Viet Cong to endure stems from their ability to maintain what has come to be called the "infrastructure", that is, a network

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* See Wm. W. Lockwood, "The Economic Development of Japan, Growth and Structural Change, 1868-1939", Princeton University Press, Princeton, N.J., 1954, especially pp. 488-491.

of local, mostly functional organizations which they have set up to organize and control the local population and through which they have carried out a large proportion of their insurrectionary activities.

In the authoritarian combination of carrot and stick, functional, non-political local organizations with limited powers are a carrot used to give to the people, first, some of the material benefits of economic progress and, second, a measure of control over their personal lives and their local communities. By democratic standards the authoritarian approach is properly described as restrictive, a denial of political freedom and civil rights. But to people who for centuries have been invisible in public affairs, the authoritarian approach represents an opportunity for some involvement and some means for self-improvement which they have never known. The history of the modern authoritarian states tells us that, in fact, political control can be imposed in ways which still leaves some scope for technological innovation.

There is actually more participation and more local decision-making in the modern authoritarian states than in most of the developing countries, including those that have the forms of democratic government at the top.

Many decisions made at the local level in the modern countries are made only by central governments in the developing countries. Generally speaking, farmers are not allowed to build their own farm-to-market roads without the approval of central government civil servants. The same is true of small-scale land improvement projects, such as a drainage or irrigation ditch for a hundred or a thousand acres.

Most farmers in the poor countries cannot join the farmer in Egypt in saying, "I am my own boss...". Rather, as a villager in one country is quoted as saying, "When the ordinary man makes his will conspicuous, the extortioner is not far behind".* The "extortioner" in such a story is a local representative of the central (or provincial) government, usually the policeman, the tax collector, or the keeper of the land records. In this particular story it was the policeman, who filed a false charge against a villager who had made his will conspicuous.

Sometimes, as in South Vietnam, local councils are not empowered to approve their own budgets but must submit them to central government officials for approval.

The tax powers of local governments usually are strictly limited. Land and property taxes, the traditional, major source of revenue for local self-governments in the Western democracies, are commonly collected and spent by national or provincial governments. Thus, the people often are not allowed to tax themselves for their own improvement even if they wish to do so.

Or, civil servants who work with local councils may actually be employed, paid, and promoted by the central government, as if America's county and city managers were appointed and controlled from Washington. Not surprisingly, they may feel beholden to their superiors in the central government rather than to the people among whom they live and work. South Vietnam is one of many examples that may be cited.

As Peter the Great once explained to one of his Ministers who resisted his efforts to decentralize administration in Russia, "It is difficult for a man to understand everything and to govern from a distance".**

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* Quoted in William and Charlotte Wiser, "Behind Mud Walls", p. 120.

** Quoted in Vasily Klyuchevsky, "Peter the Great" (Archibald translation), London, MacMillan, 1958, p. 192.

Or, if I may paraphrase Winston Churchill: Most of the people still feel left out of the constitution. The ancient inhibitions still obstruct the adventurous.*

Among the major political groups of the world, the communists claim to be the only ones who comprehend the significance of political development. They proclaim to the peoples of the world that they are the only truly modernizing political group, dedicated to using the power of government to remove the affronts to human dignity, the restraints on human endeavor that are inherent in the structure of traditional societies. In countries where traditional governments have been reluctant to initiate the process of modernization and promote political development, communist organizers frequently find a fertile field among those who are impatient for faster progress and who believe faster progress is possible.

To us, those who succumb to communist promises are guilty of either ignoring or accepting communist aggression. But once again, there is the question of how much we can use the standards of modern democracy in evaluating some of the actions and attitudes of the people who live in the developing countries. A man who says, "I can understand the work... I can learn it. But they won't let me. They won't teach me"** -- such a person may be more attracted by the progress he knows that Russia and other communist countries have achieved than repelled by communist methods. Those who for centuries have been the victims of condescension, coercion, and corruption, and are either uneducated or only poorly educated, are more likely to be concerned about their own personal situation than informed and concerned about the rigid dogmas and coercive techniques of communism.

Because we live in a free society, we judge communism in a different perspective. First of all, we are not the victims of either the condescension, coercion, and corruption of the traditional societies or the political controls of the modern authoritarian states. Secondly, we now know enough about communist doctrine and practice that the manner in which a new communist gover ment would take control of a country and set about the process of modernization is, in considerable measure, predictable. It is because we know that a certain portion of this prediction will involve coercion and repression that our own country and other Western democracies have opposed communist aggression - even to the point of large-scale military intervention. To us the most significant aspect of communism is oppression. To some people in the poor countries, however, the most significant aspect of communism can appear to be the promise of greater opportunity than they have now. It is difficult for us to explain to these people that this opportunity may be illusory - unless their own government is creating greater opportunities for them, without oppression.

By contrast, there is no such widespread understanding of what might be called a "strategy for democratic development", that is, how the Western democracies can promote democratic political development in the poor countries. The first reason for this lack of understanding is that in our relationships with the developing countries the past twenty years we have relied primarily on the economic ideas of development, even though we

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* In his summary commentary on the rise of democracy in Britain in the 19th century Britain in the closing paragraphs of "History of the English Speaking Peoples", Churchill wrote these sentences, "No one felt left out of the constitution", and "The ancient inhibitions no longer obstructed the adventurous".

** Quoted in Kusum Nair, "Blossoms in the Dust", New York, Frederick A. Praeger, 1962, p. 107.

have claimed we are advocating the cause of freedom. We have ignored Henry Kissinger's observation re modern states that "economic progress enhanced the prestige of the form of government promoting it".*

According to the theory of political development the problem of loyalty and development cannot be solved in traditional societies where the mass of ordinary people live out of sight of the others, unheeded, unheard, and unseen. This is true even if there is considerable progress in the physical aspects of development. Our experience in Vietnam ends to support to this conclusion. The reader will note in Part II of this study that there has been considerable progress in some of the sectors of development in Vietnam, especially manufacturing and education, and, to a lesser extent, per capita income and agriculture. Traditional governments can mobilize their resources to build more roads, more schools, more dispensaries, more irrigation ditches. But the construction of things is not a strategy of democratic development. It does not create dignity and opportunity and a sense of belonging - or induce loyalty. The villager does not understand whether these new roads, new buildings, new ditches are simply physical improvements in the same subsistence society he has always known or a part of the new society that development is supposed to create. Physical progress, without a change in the role of man in society, is government by benevolence. But benevolence is not, and never has been throughout history, a big enough idea to guide the organization of societies and governments.

The rise of democracy in the West is a story of poor people becoming visible in public affairs. Modern democracy was created when the Western democracies were still as poor as many of today's developing countries. Most of the people in Western Europe and North America were still subsistence farmers. Large numbers of them were illiterate.

If today's developing countries are to become free, then the nameless, marginal masses must become visible in public affairs. This is the guiding principle of democratic development. The application of this principle is too big a subject for this study, which is limited to an explanation of the theory of political development and an examination of the performance of 10 "political development" and 19 "non-political development" countries. However, the initial step in making the mass of the people visible has never been better expressed than by de Tocqueville in his book about our own country, "Local assemblies of citizens constitute the strength of free nations. Town meetings are to liberty what primary schools are to science; they bring it within the peoples reach, they teach men how to use it and how to enjoy it. A nation may establish a system of free government, but without the spirit of municipal institutions it cannot have the spirit of liberty".** Self-governing local institutions of the type that will be discussed in various sections of this study are the way in which the mass of ordinary people can begin to learn how to "use" and "enjoy" liberty to make both democracy and development a part of the routine activities of daily life, to give the people the feeling that in developing their local communities they are helping to develop their country.

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* "The Necessity for Choice", Garden City, N.Y., Doubleday & Co., 1963, pp. 302-303. The italics are mine.

** "Democracy in America." My italics.

PART TWO

The Performance of 29 Developing Countries

In Part One we have tried to formulate a concept of development which explains the importance of non-economic factors in the process which is frequently and too narrowly described as "economic development". This concept enables us to classify developing countries according to their willingness to modernize the social structure. If the theory of political development is valid - if the willingness of a country to modernize the social structure is high, then the country's rate of economic and social growth should be high. If a country is reluctant to introduce the process of social modernization then its rate of progress should be slower.

Part II of this study is an empirical test of this hypothesis, an analysis of the performance of 10 "political development" and 19 "non-political development" countries during the past fifteen to twenty years.

However, only the first premise of "political development", namely, that countries which organize and train the bulk of their populations to solve their own problems will achieve the fastest rate of economic and social growth, is subject to statistical analysis. The graphs and tables which follow suggest that this first premise is, indeed, valid. The performance of the "political development" countries in a number of sectors and over extended periods of time is, indeed, superior to the performance of "non-political development" countries, often by very wide margins.

The "political development" countries are achieving rapid and continuous increases in agricultural productivity (Section 1) and in industrialization (Section 2). Because of high rates of increase in these production activities gross national income and per capita income are rising more rapidly than in the "non-political development" countries (Section 3). Further, the "political development" countries are acquiring the ability to compete on the international market so that they can finance imports needed for additional investment with their own export earnings rather than continue to be dependent upon "foreign aid". (Section 4). For Western taxpayers this is the most immediate and the most personal benefit of "political development".

The marked difference in the rate of progress between "political" and "non-political development" countries in economic activities carries over into non-economic areas as well. There is good reason to believe that political development induces a voluntary decline in birth rates. This produces two benefits, a further acceleration of the rate of increase in per capita income and a reduction of the population problem to more manageable proportions (Section 5). Finally, in the fields of education (Section 6) and health (Section 7) the performance of the "political development" countries is superior to the performance of the "non-political" development countries. There are a small number of cases in which the record of a "non-political development" country compares favorably with the record of the "political development" countries in a particular sector or sub-sector. These are explained wherever they occur.

The exact number of countries included in the analysis varies somewhat from one section to another according to the availability of reliable information. The "political development" countries which appear frequently are Taiwan, Israel, Puerto Rico, Egypt, South Korea, Yugoslavia, Poland, Bulgaria, Romania and Hungary.

The countries classified as "non-political development" which appear frequently are India, Pakistan, Philippines, Thailand, Indonesia, West Malaysia (former Malaya), Iran, Turkey, Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, Cuba, Tunisia and Morocco. South Vietnam is included in some sections because of America's involvement in that country even though there are a number of gaps in the statistical data. The African countries south of the Sahara are excluded primarily for lack of information extending back through the years.

In a few sections the United States, Japan, and Russia are added for purposes of comparison with both groups of developing countries.

The population of the 19 "non-political development" countries in 1966 was one and one quarter billion. This is about three fourths of the 1966 population of the under developed world (excluding communist China). The 1966 population of the 10 "political development" countries was 166 million.

The classification of countries as "political" or "non-political development" requires some comment. The inclusion of Egypt and South Korea as "political development" countries may seem premature to some students of development. The classification "political development" is essentially an ex post facto judgment, a looking back over an extended period of time and concluding that a country has achieved a high degree of stability, a considerable measure of popular involvement in the use of modern technology, and set in motion the lengthy process of modernization of the social structure. Egypt can be classified as a "political development" country only since the mid-1950s and South Korea only in this decade. It may be too soon to be assured that the modernizing policies initiated by the existing governments will be followed by future governments. In spite of the short time span in which Egypt and South Korea can be classified in this category, they are included in order to show how rapidly countries can begin to slough off the lethargy of centureis once the modernization process is set in motion.

Of the communist countries included in this study, Cuba requires special mention. Whereas the performance of the East European communist countries, especially Yugoslavia, Romania, and Bulgaria, ranks among the best of the developing countries, Cuba's record under Castro is one of the very worst. The rate of investment is high, almost 30%, yet per capita income has actually declined somewhat in recent years. Cuba's record in other sectors is also unimpressive. For this reason Cuba appears on the tables as a "non-political development" country.

Country classifications of the kind used in this study are always somewhat subjective and bound to arouse some difference of opinion. Some students of development may take exception to certain countries which are classified as "non-political development". There are those who consider West Malaysia's development program to be one of the better ones in the world. West Malaysia's record is above the world-wide average, but it is substantially behind Taiwan and Puerto Rico, for example. In addition, West Malaysia lags in the development of local organizations. The local government program in East Pakistan is one of the best examples in the world of political development at the local level. However, the program is less strong in West Pakistan, and it never has received the kind of strong support from the central government which is needed and which was an important aspect of successful development in Taiwan and the other recent successful countries. The reasons for including a country such as Mexico in the "non-political development" catagory are discussed in succeeding sections.

The data used in this study is drawn almost entirely from United Nations statistical documents, most of which are published annually.* In the few instances that other sources have been used this is so noted.

To a greater extent than one would wish, the selection of countries and subjects was determined by the availability of data. Israel and West Malaysia are missing from the agricultural section for lack of adequate information on some of their most important crops. Puerto Rico is also missing from the agricultural section because the Food and Agricultural Organization of the United Nations includes Puerto Rico in the statistics for the United States, whereas a number of other UN documents list the island Commonwealth separately. There are some important gaps in the statistical information for Egypt and India. The information on transportation is too sparse to give an adequate measure of either growth rates or efficiency in the use of existing transportation systems. Other examples could be cited. Generally speaking, however, statistical coverage in the "political development" countries is both more reliable and more comprehensive than in the "non-political development" countries, one indication of the superior performance of the first group.

The qualifications customarily attached to statistical analyses need to be attached to this study. The statistics which follow cannot be used for precise arithmetical comparisons between countries. Statistics from the developing countries often are of uncertain unreliability. In addition, sometimes there are technical differences in the method of calculation, as in the national income accounts. On the other hand, the trends within each country are distinct. The trends can be accepted as approximations of performance, and they can be compared between countries.

Throughout the tables which follow the names of the "political development" countries are printed in capital letters. The names of the "non-political development" countries are printed in lower case letters.

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* These include the United Nations Statistical Yearbook, the Demographic Yearbook, International Trade Yearbook, the Monthly Bulletin of Statistics, Yearbook of National Income Statistics; World Energy Resources; the Production and Trade Yearbook of the Food and Agricultural Organization; the Statistical Yearbook of the United Nations Education, Scientific and Cultural Organization; Provisional Report on World Population Trends As Assessed in 1963; World Crop Statistics, 1948-1964, published by FAO; Compendium of Social Statistics; and Growth of World Industry.

A. ECONOMIC INDICATORS

Section 1 - Agriculture

The Western countries and Japan have already achieved, in the course of their development, what are frequently called "agricultural revolutions". Getting underway the kind of progress needed to achieve agricultural revolutions in the developing countries has been a major goal of their national governments since the time that development has become a subject of world-wide concern and effort.

Continued progress in agriculture in the rich countries depends upon finding new uses of existing knowledge or the discovery and application of new knowledge. In principle, this would seem to be more difficult than using knowledge which is already known. Nonetheless, the rate of progress is higher in the rich countries than in the poor countries. Technological progress appears to contain its own momentum for further progress.

As was noted in Part I, and as the reader will see in the graphs which follow, yields per acre in the developing countries are very low. For the most part, productivity increase during the past twenty years have been modest and much less than in the United States and Japan. It would seem that the reverse ought to be true, that productivity gains would be more rapid in the poor countries than in such high productivity countries as the United States and Japan because the potential for improvement in the poor countries, based on using knowledge which is already available, is so very much greater. Thus, the problem of agriculture in the poor countries is not just that it is inefficient, but that it is almost stagnant. The productivity failure in agriculture is perhaps the best example there is of the incompatibility of traditional social structures and the efficient use of modern technology. As the United States Department of Agriculture says, "Food shortages are not due to a lack of technology, but to the inability to apply existing knowledge".*

The difference between success and failure in agriculture in the past twenty years can be shown by comparing the productivity statistics for foodgrains in Egypt and Taiwan with India. In 1964, the year preceding India's long famine, the production of foodgrains (principally rice wheat, and millet and sorghum) in India was 93 million metric tons.** India imported 6 3 million metric tons, or 6% of her total consumption. If, however, Indian farmers had produced at the same level of efficiency as Egyptian farmers in 1964, total production of foodgrains would have been 370 million metric tons, or 271 million tons more than consumption;

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* "Increasing World Food Output", Washington, D.C., 1965, p. 115.

** A metric ton is almost the same as an American long ton. The former has 2205 pounds, the latter 2170 pounds.

at Taiwan levels of efficiency production would have been 212 million tons, or 113 million tons more than consumption. Had Indian farmers actually produced at such levels of productivity the world foodgrain market would have collapsed. Total exports of all types of foodgrains in 1964 were just over 100 million metric tons.

To make the comparison in reverse: if Egyptian farmers had produced at Indian levels of efficiency Egypt's import requirement for foodgrains would have been 75% of total consumption! Similarly, in Taiwan the import requirement would have been 60% of total consumption!

To take one more example of the untapped potential for agricultural progress in the under eveloped world: Thailand is the world's largest exporter of rice. Not, however, because of a high level of productivity but because of a relatively sparse population (by Asian, not North American, standards). The yield per acre in 1966 was 1530 pounds. This is higher than India and the Philippines, about the same as Pakistan, but a little lower than Indonesia. Total production was 11.8 million metric tons. Of this amount, 1.5 million metric tons were exported. If Thai farmers had produced at Egyptian levels of efficiency in 1966 production would have been 28 million tons, and the exportable surplus would have been 18 million tons; at Taiwan levels of efficiency production would have been 26 million tons and the exportable surplus 15 million tons. In either case the world rice market would have collapsed. Total rice exports in 1966 were around 8 million tons.*

This transposition of statistics may seem fanciful. Yet, hopefully, what has become reality in Taiwan and Egypt in the past several decades can become reality in India and other developing countries in the next several decades.

The difference in productivity levels between Egypt and India are shown on Graphs 1 and 2. These graphs show changes in output per acre from 1948 to 1966 for some of the major crops of each country.** For the most part they are the same crops. The graphs are drawn to the same scale and therefore are visually comparable. The reader will note that many of the lines for Egypt are in the middle or upper portion of the graph and show a rising trend. The lines for India are bunched at the bottom of the graph and show only a slight rise. Fertilizer consumption per acre is also shown on the graph. Egyptian farmers use more than ten times as much fertilizer per unit of land as Indian farmers. The comparisons between Taiwan and Brazil, and Japan and Argentina, which are shown later, show similar sharp contrasts between "political development" and "non-political development" countries.

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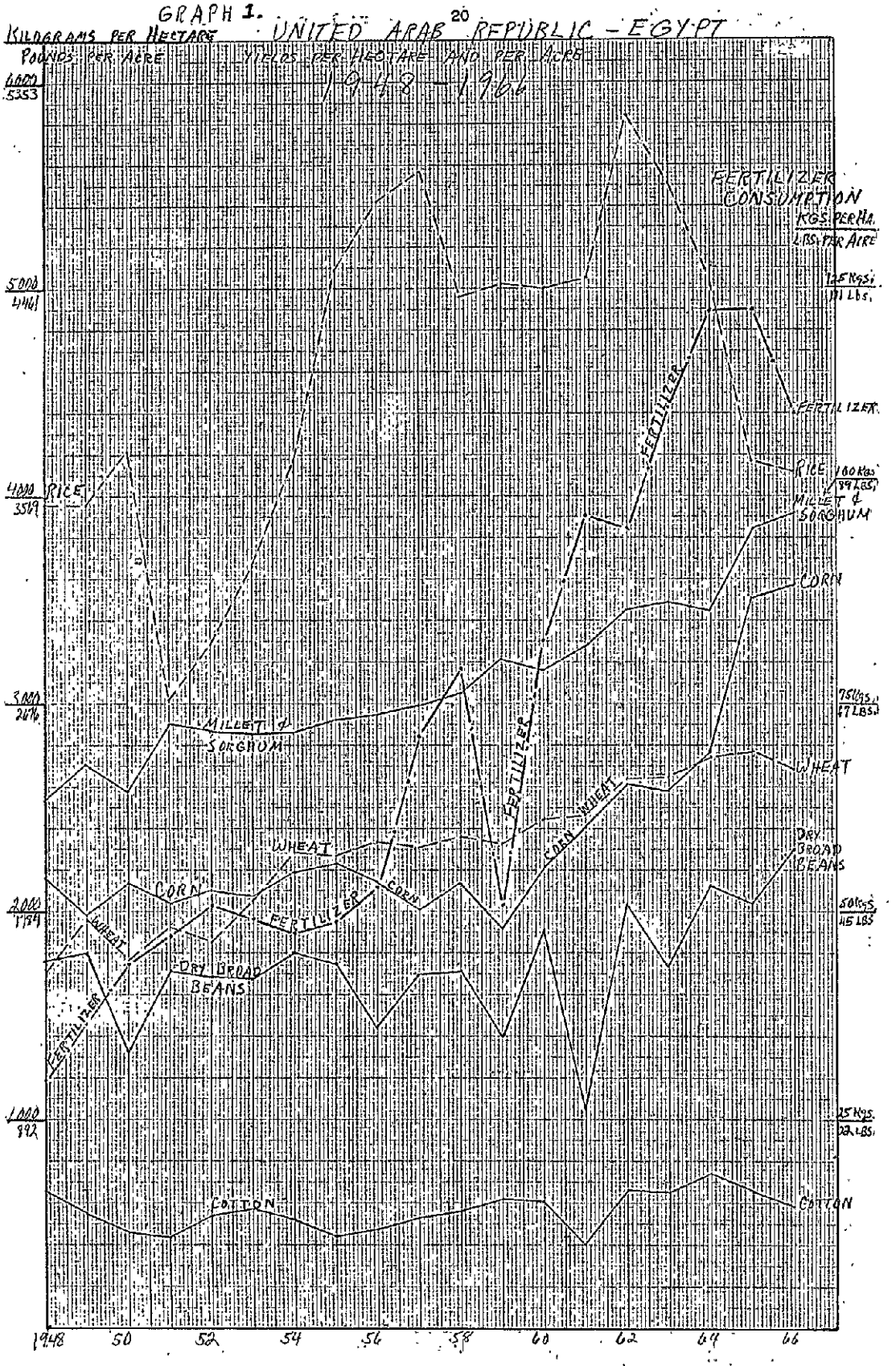
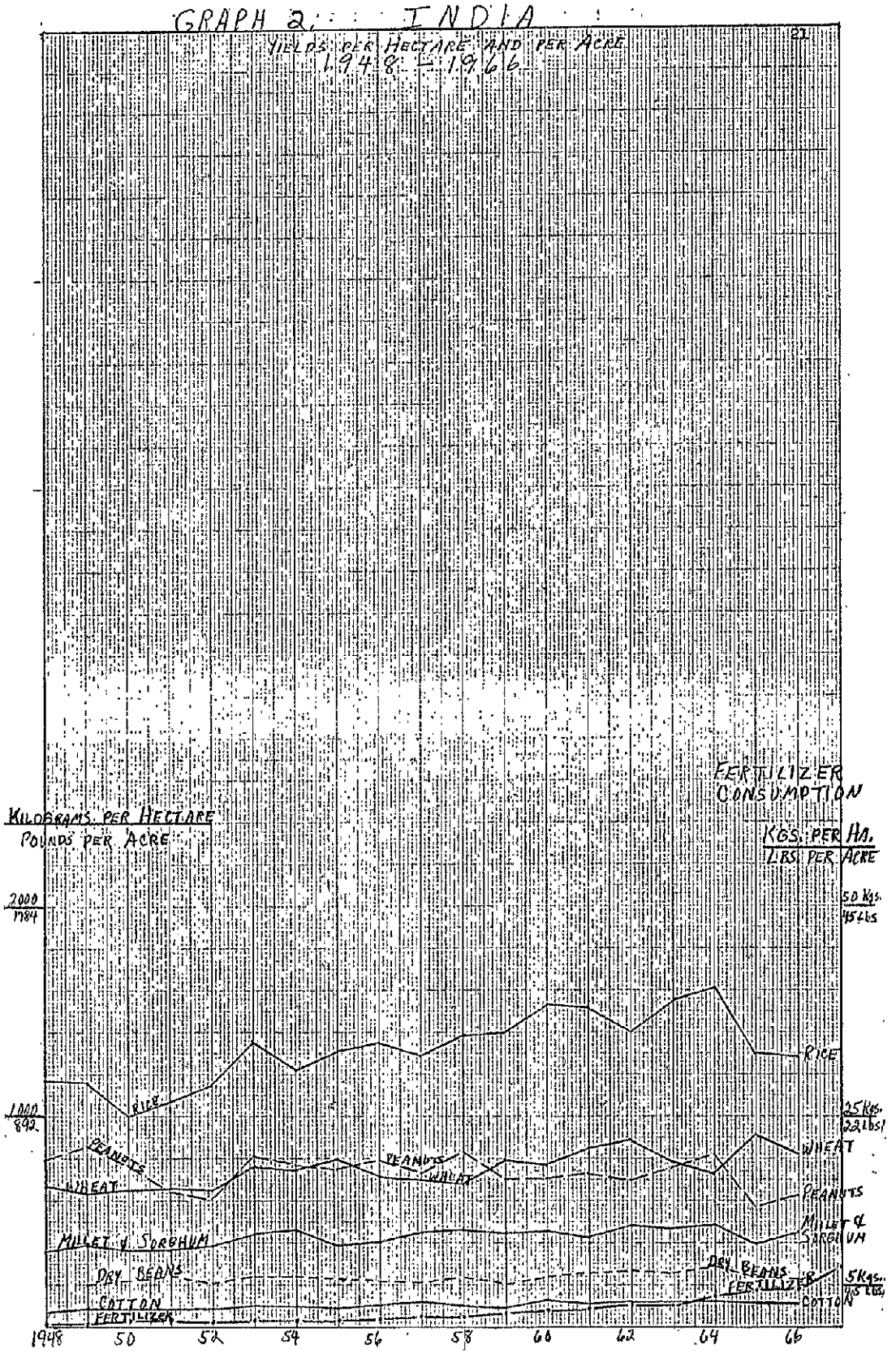
* See appendix 1 for the details of these calculations. These comparisons are not intended to suggest that either Indian or Thai farmers should actually produce the quantities of foodgrains given above. Production must be tied to demand, both domestic and external. What should happen in India and Thailand, as has already happened in Taiwan and Egypt, is that farmers should shift to other products for which markets do exist. The comparison is intended to dramatize the difference between high and low productivity countries and the enormous potential for improvement in the latter.

** Changes in yields per unit of cultivated land is the best available indicator of agricultural progress and is used by the United Nations and the United States Department of Agriculture. Another useful indicator is changes in labor productivity. In Taiwan, for example, the productivity of the agricultural labor force has more than doubled in the past twenty years. Unfortunately, statistics on labor productivity are available only for a handful of countries. However, where the output per unit of land has not risen significantly it can be assumed that labor productivity also has not risen significantly. In fact, in the crowded countries it may be that labor productivity has declined because the rural population is increasing faster than productivity.

GRAPH 1.


KILOGRAMS PER HECTARE
POUNDS PER ACRE
UNITED ARAB REPUBLIC - EGYPT
YIELDS PER HECTARE AND PER ACRE
1948 - 1966
6000
5353
5000
4461
4000
3569
3000
2676
2000
1784
1000
892
FERTILIZER CONSUMPTION
KGS. PER HA.
LBS. PER ACRE
125 Kgs.
111 Lbs.
FERTILIZER
RICE
100 Kgs.
89 LBS.
MILLET & SORGHUM
CORN
75 Kgs.
67 LBS.
WHEAT
DRY BROAD BEANS
50 Kgs.
45 LBS.
25 Kgs.
22 LBS.
COTTON
RICE
MILLET & SORGHUM
CORN
WHEAT
DRY BROAD BEANS
COTTON
FERTILIZER
1948
50
52
54
56
58
60
62
64
66

GRAPH 2: : : INDIA : : :



Why should land productivity be so much higher in one country than in another? Variations in physical resources, such as land, rainfall, temperature and other factors, account for some of the difference, but not for the enormous magnitude of the differences that actually exist. It has already been proven that high productivity levels are possible in many parts of the world. In the graphs which follow the reader will note that in a number of the developing countries output per acre for individual crops is high and rising. Mexico, for example, is one of the world's most efficient producers of cotton. Wheat yields are higher than in the United States. Corn productivity in Thailand has increased by two and a half times during the same period that rice productivity has risen by only one fifth. Some of the African countries are among the world's efficient producers of sugarcane, but productivity in the foodgrains is the lowest in any of the major regions of the world. The number of examples of relatively high and rising productivity that could be given is lengthy. Nevertheless, total food production in this decade has been falling behind population growth in some parts of the world.

A full explanation of the difference between the handfull of successful countries and the rest of the developing countries would necessarily be lengthy and complex. However, the beginning of the explanation concerns only one, though crucial, point. Is agricultural development primarily a problem in technology? or a problem of people? Should the emphasis be placed on fertilizer? or villagers?

The record of the past twenty years suggests that agricultural development is first of all a problem in modernizing the social structure in which farmers grow food rather than a problem of physical resources or technical solutions. Those few countries which have succeeded in modernizing agriculture have begun by organizing and training villagers to use modern technology efficiently in local organizations. These local organizations have specific, defined functions, decision-making powers, budgets, and are essentially self-governing. The organizations are structurally complete and membership is effectively open to all farmers. In Japan, Taiwan, and Egypt villagers are well organized in farmers associations and/or local government. Progress has been both rapid and continuous (Sub-section a). Where farmers, and especially small farmers, are not well organized - which is, tragically, most of the developing countries - the record is erratic and unimpressive (Sub-sections a, b, and c).

The weaknesses of local governments in the developing countries were discussed in Part I above. Here we shall mention one of the few examples there is of the rural development potential of local governments taken from East Pakistan, and then turn to the subject of farmers organizations.

Beginning in 1962 the county and township governments of East Pakistan were empowered to build rural transportation networks. In five years the villagers, through their local councils, built 115,000 miles of farm-to-market roads. Today there are almost as many miles of farm-to-market roads in the Province, relative to the area of cultivated land, as in the Western democracies, Japan, or Taiwan. Almost all of the farmers of East Pakistan now have easy access to the market with modern means of transportation. History does not record the length of time taken by countries to build rural road networks. Doubtless, East Pakistan holds the record. By contrast, if India continues to build farm-to-market roads at the rate of 1952-1965, it will take India roughly a century to build as many roads as East Pakistan built in five years!

The history of the agricultural revolutions of Japan, Taiwan, and Egypt, where the average farm size is only two and a half acres,

suggest that the cooperative* may be an even more important institution of technological innovation in the crowded countries than it has been in the Western democracies because farms are so very small. No country has succeeded in bringing the two and a half acre farmer into the world of modern agriculture except through effective group activity.

Governments throughout the underdeveloped world and the aid agencies have been supporting the development of cooperatives for many years. Whereas the cooperative has been the institution of mass participation in Japan, Taiwan, and Egypt, in most of the developing countries it has been a failure.

A cooperative, by definition, is supposed to be an organization controlled by its members. The educated who manage the governments of the developing countries often doubt whether villagers, who often are illiterate and, at best, only poorly educated, can manage their own affairs. Central government officials therefore often select the members of the board of directors or participate in the selection process. Often the business manager is selected, trained, assigned, transferred, and paid by the central government. Not surprisingly, these officials, as well as the centrally appointed local government officials mentioned in Part I, may feel greater responsibility to their superiors in the civil service than to the members of their cooperative. Not uncommonly they will send detailed reports of their activities to the government - but not to the members. In this situation it is not surprising that farmers around the under developed world often consider the cooperative to be a government agency rather than their own organization.

In addition to being at least partially controlled by central governments, the cooperatives in the poor countries often are structurally incomplete. For example, one of the very most important requirements of an agricultural revolution is a system for capital formation, a part of which is a network of local financial institutions which can be used for savings as well as credit and which are conveniently accessible to the local population. In Taiwan, for example, in 1966, twenty-one per cent of the total deposits of all financial institutions in the island country were held by the two major institutions of agricultural financing, the Credit Cooperative Associations and the Credit Departments of Farmers' Associations. Another fourteen per cent was held by two other organizations that are urben as well as rural but which are used mainly by small depositors, the Mutual Loans and Savings Companies** and the Postal Savings System. Thus, the proportion of deposits owned by villagers and other small depositors is one third of the total. If government deposits are excluded from the calculation the percentage is forty-three. And these figures do not include personal bank accounts. In most of the developing countries this statistic is zero because the local financial institutions do not exist! Without such institutions local savings for capital formation in agriculture cannot be mobilized effectively.

Generally, the cooperative is used only as a means of extending credit to farmers. The loans are approved by the government selected or approved officers, not by locally selected farmers who are judging their own neighbors as credit risks. In many countries the amount of funds available for lending is sufficient to help only

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* In Western countries a cooperative is regarded as a "democratic" institution because it is self-governing and because members and officers participate in public affairs. Many Westerners do not like to use the word cooperative in describing farmers organizations in authoritarian countries such as pre-war Japan or Nasser's Egypt because of the limitations on political thought and action. The cooperative is first of all a business institution which must bring economic benefits to its members if it is to survive. Whether the cooperative is a political organization does not depend upon characteristics of the cooperative but upon the political system in which it exists. In the Western countries the cooperative can be described as "democratic" because these countries are democratic. In the modern authoritarian states the cooperative is essentially apolitical.

** Of which 82 are in rural areas and 16 are in urban centers.

ten or five per cent, or even fewer, of the farmers who actually need credit. Where credit funds are in such short supply, inevitably favoritism plays a role in the selection of loan recipients. Interest is not retained by the local cooperative as one way of building up capital, but is returned to the national agricultural development bank. There is no system for the receipt or use of deposits of any kind. Can such a financial institution be expected to succeed?

Thus, the "cooperative", which was originally organized in Western countries for the benefit of masses of ordinary people often has not benefitted the masses of two and a half acre subsistence farmers in the developing countries. They are dominated by governments which seem to be more interested in retaining control over village activities rather than stimulating villagers to improve themselves, their local communities, and their country. "The result, typically and plainly, has been to lodge the village cooperative in the hands of the same privileged village cliques that have been doing most of the traditional money lending and trading. By insisting on the pretense of indigenous origin, the forces of reform have surrendered the cooperative instrument to management by the very groups most inclined to resist massive rural reconstruction. In the process, the primary cooperative society has tended to become simply another device for reinforcing the pattern of rural privilege - with the comfortable new feature of a direct line of credit on the Reserve Bank of India.*

In concluding that the creation of strong local organizations is the first step in organizing an agricultural revolution we do not intend to overlook the numerous technical and economic factors involved in the modernization of rural subsistence societies, nor to ignore the potential for progress inherent in new knowledge such as the so-called "miracle" rice and wheat seeds. These new seeds may well help solve the food problem in the next several decades, but improved seeds cannot solve the problem of unimproved farmers. What we wish to emphasize is that those countries which have been most successful in using modern economics and technology are the very same countries which have treated agricultural development as, first of all, a problem of people. We would also note that Taiwan and Yugoslavia and Egypt and the other "political development" countries achieved their agricultural revolutions, with high levels of productivity, before the "miracle seeds" were developed.**

The graphs and tables which follow show changes in agricultural productivity in 31 countries from 1948 to 1966 for a number of crops which are grown in many parts of the world. The graphs also show the consumption of fertilizer during the same period. The readers will note that the countries with both the highest levels of output and also the highest rate of increase in yields per acre are the same countries in which local organizations are strong.

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* John P. Lewis, "The Quiet Crisis in India", Doubleday Anchor Edition, p. 177.

** Of these new seeds Heilbroner writes, "Our eager endorsement of technology as the cure for underdevelopment reveals all too clearly our failure to understand the social environment in which the process of change takes place. For the new seeds (in India and South America) are first used by the richer peasants. The poorer ones cannot afford to experiment for fear of starvation if the seed fails, or simply because, being poor, they are least 'ready' for change. As a result the disparity in income between the upper stratum of peasants and the lowest widens. There is more food - but there is also more social misery". "Making a Rational Foreign Policy Now", Harper's, September, 1968, p. 67.

Sections 1-a through 1-e show the 31 countries arranged in five groups:

1-a. The Contrast between Success and Failure
1-b. The Export Exceptions
1-c. Some Problem Countries
1-d. The Communist Countries of Eastern Europe and Cuba
1-e. The United States and Russia

The data shown in the country comparisons is rearranged in Section 1-f in order to show crop comparisons.

Section 1-g shows fertilizer consumption. The farmers of Japan, Taiwan, and South Korea work on only 3.4% of the cultivated area of the East and South Asian countries (not including communist China). In 1966 they used 63.3% of all the fertilizer used in the region. In the Near East the farmers of Egypt and Israel used 51.6% of the fertilizer consumed in the region on just 4.1% of the arable area. World-wide (excluding Russia and communist China), the developing countries possess 61% of the arable land. In 1966 they used only 10.6% of the fertilizer consumed throughout the world.

Section 1-h shows certain characteristics of a "miniculture revolution". Section 1-i is a proposal for measuring the adequacy of farm-to-market road networks in the developing countries.

Because of the bulk of the material much of it has been transferred to an Agricultural Appendix. The main body of the study includes the graphs for 18 of the 31 countries, two of the six crops, rice and cotton, and a graph on fertilizer consumption. The remainder of the graphs and a detailed table for each country, each crop, and fertilizer will be found in the Appendix.

Section 1-g-1, which was prepared after the manuscript had been typed, discusses the significance of cereal crops, i.e., rice, corn, wheat, etc., in subsistence agriculture.

SECTION 1-a. The Contrast Between Success and Failure

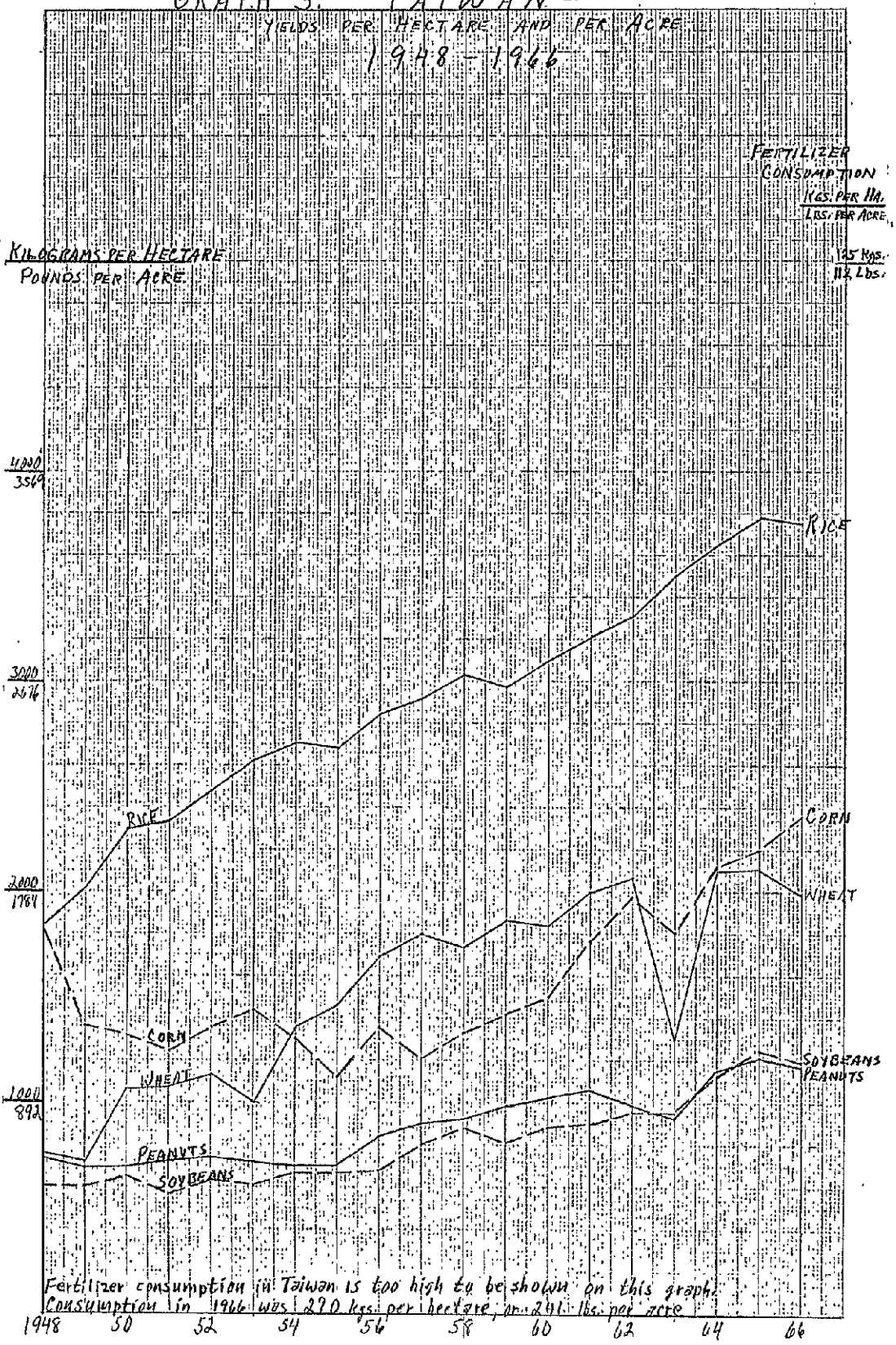
Included here are the graphs for:

Egypt and India (shown above)
Taiwan and Brazil
Japan and Argentina

The graph for the fourth successful country, South Korea, and the tables for all countries are in the Agricultural Appendix.

GRAPH 3. TAIWAN

YIELDS PER HECTARE AND PER ACRE
1948 – 1966

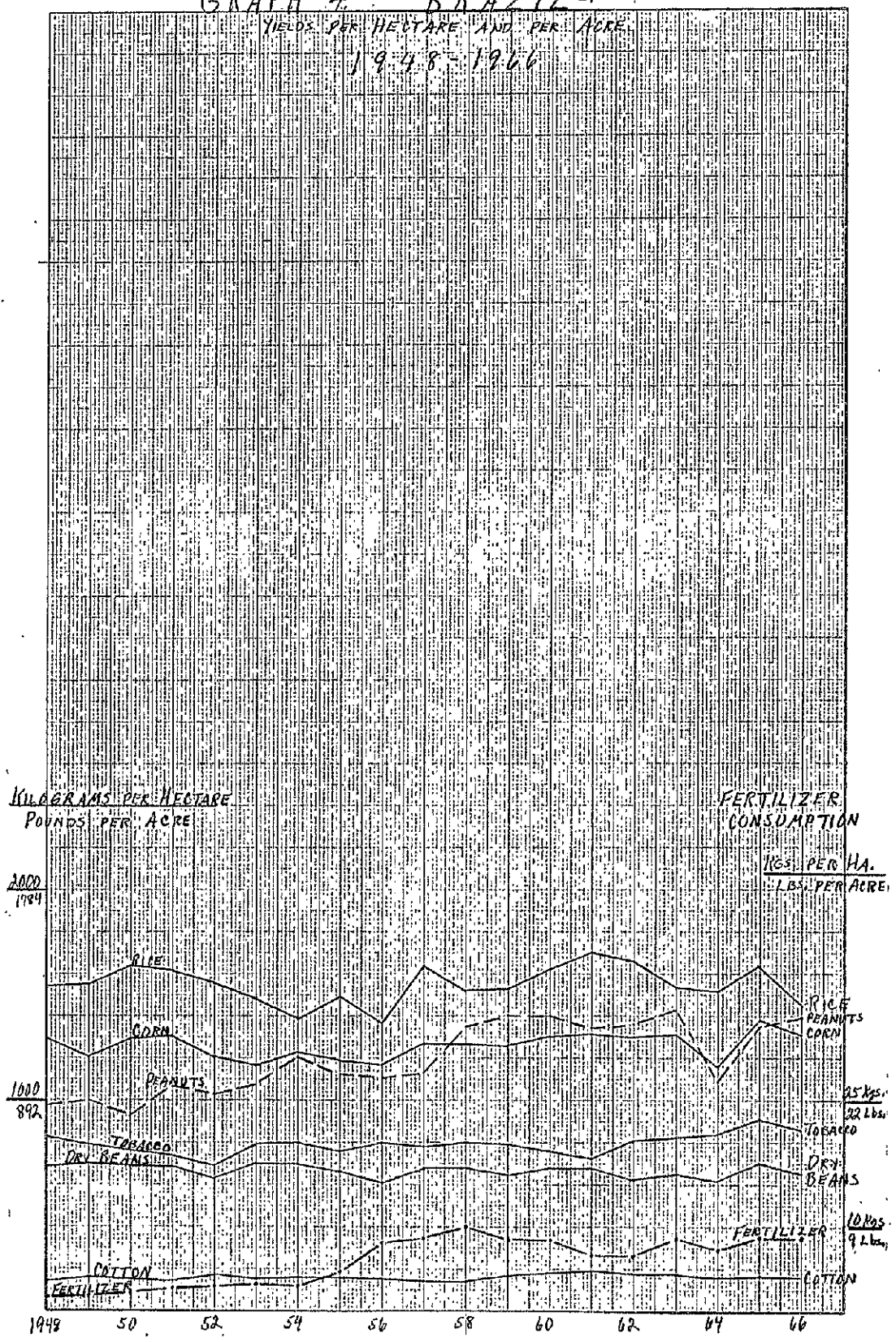


Fertilizer consumption in Taiwan is too high to be shown on this graph.
Consumption in 1966 was 270 kgs. per hectare, or 241 lbs. per acre

GRAPH 4 BRAZIL

YIELDS PER HECTARE AND PER ACRE

1948 - 1966



GRAPH 5 JAPAN

YIELDS PER HECTARE AND PER ACRE
1948 – 1966

KILOGRAMS PER HECTARE
POUNDS PER ACRE

6000 / 5353
5000 / 4461
4000 / 3569
3000 / 2676
2000 / 1784
1000 / 892

FERTILIZER CONSUMPTION
KGS. PER HA.
LBS. PER ACRE

RICE 125 kgs. 112 Lbs.
WHEAT
TOBACCO
PEANUTS
SOYBEANS

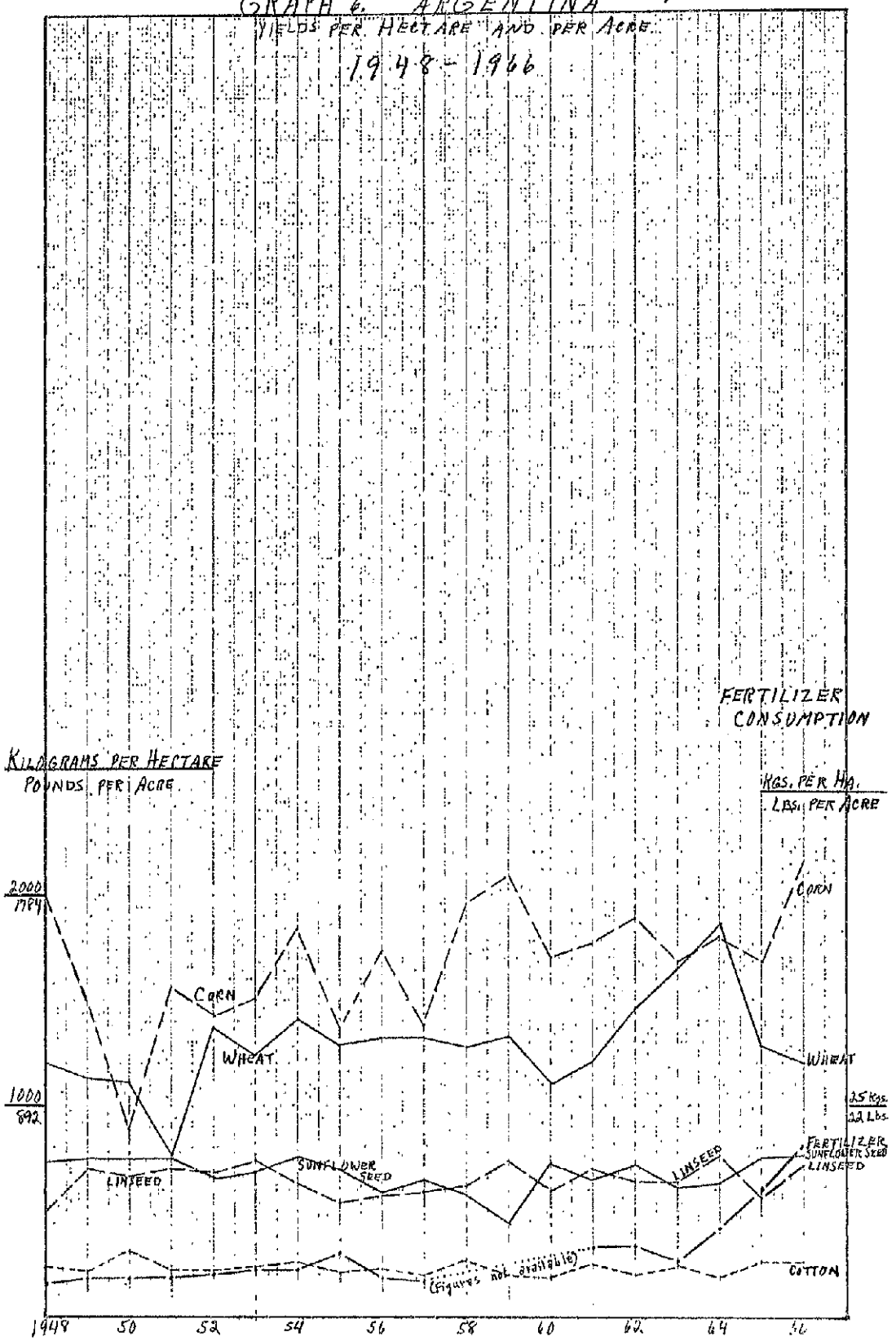
Fertilizer consumption in Japan is too high to be shown on this graph
Consumption in 1966 was 321 kgs. per hectare or 286 lbs. per acre.

1948 50 52 54 56 58 60 62 64 66

GRAPH 6. ARGENTINA

YIELDS PER HECTARE AND PER ACRE.

1948 - 1966



SECTION 1-b. The Export Exceptions

Mexico, Thailand, Peru, Morocco, West Malaysia, Philippines

(The graphs for Mexico and Thailand are shown here. The graphs for the other four countries and the tables for all six countries are in the Agricultural Appendix).

In Mexico, Thailand, Peru, Morocco, West Malaysia, and the Philippines there has been considerable progress in developing agriculture, less progress in developing farmers. These countries are identified separately because of the rapid and continuous rise in exports, and especially agricultural exports.* In economic terms this means that the modern portion of the agricultural sector has greatly enhanced the ability of these countries to finance from their own efforts the machinery and equipment needed for industrialization. None of these countries, however, has developed a network of local organizations for two and a half acre farmers. In Mexico, for example, "The great increases in agricultural production in the past twenty years have been concentrated in only two regions of the country, the North and Northwest, where a new commercial agriculture has developed, based upon large private holdings, irrigation, and mechanization. The great mass of the peasantry continues to work its tiny subsistence holdings with traditional backward methods. The contrast between the old and new agriculture in Mexico is becoming even sharper. Thus, whereas less than 1 per cent of the cultivated land is worked with the aid of 55,000 tractors, about 20% of the land is still worked by the pre-Hispanic method of cutting and burning without benefit of plow and oxen. The production of Mexico's two basic food crops, corn and beans, has managed to keep up with the rapid population growth in the past twenty years, but the margin of security has been slight and in drought years Mexico has been forced to spend its precious dollars to import huge quantities of corn to feed its people."**

In many countries there are large and medium-sized farmers who are able to function as individuals. They can obtain credit from commercial banks. They know where to seek technical advice if they need it. They have access to the market. The statistics show their progress. In Mexico productivity is rising rapidly in wheat, cotton, vegetable oils and tobacco. There has also been considerable progress in animal and feedgrain production. There are products of the "new commercial agriculture". The Peruvian equivalent of Mexico's North and Northwest is the tropical, coastal lowlands. The Moroccan equivalent is the French managed sector of agriculture. In the modern agricultural sector of these countries, American and Japanese farmers would feel at home. However, in all three countries, yields per acre for the main crops of the masses of subsistence farmers remain low.

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* See Section 4 for the analysis of exports.

** From the Introduction to "Five Families", Oscar Lewis, Mentor Books, 1959. This was written in 1956, but the general picture portrayed by Lewis remains essentially unchanged.

The phenomenon of the dual economy is common throughout the developing world. Lewis' description of Mexico fits Peru as well, and also many other countries.

Thailand has also increased agricultural exports substantially, but the system differs from the other three. Thailand is perhaps the best example in the world of how an alert private trading sector can introduce agricultural improvement. Thai traders have used a supervised credit system to stimulate production of a few crops, corn and jute being the main ones. The traders provide the credit, agricultural inputs, such as fertilizer and improved seeds, and technical advice. In return the farmers agree to sell their products to the traders at a specified price. In contrast to Mexico and Peru, where the modern farmers have large or medium-sized farms, in Thailand, many of the producers of these crops are small farmers who have been organized and trained to use modern methods by the traders.

If well-managed, a supervised credit system invariably succeeds. The rapid increased in corn productivity and the relatively high level of tobacco yields indicate the potential for agricultural progress in Thailand.

The disadvantage of Thailand's system thus far is that it is limited to a small number of crops and a minority of farmers. The acreage covered by the system in 1966 was less than a fifth of the acreage of Thailand's main crop, which is rice. As shown in Part I, rice yields per acre today are actually 10% less than they were forty years ago and only a third of yields in Japan. In addition, Thailand has somehow not yet learned how to use progress in agriculture to stimulate progress in processing and manufacturing.*

The Philippines has increased her "traditional" exports of sugar, coconuts and coconut oil, and logs. In addition, the Philippines is beginning to process some logs into wood products prior to export.

West Malaysia has increased her "traditional" exports of tin, rubber, and palm nuts and palm oil. Most of the palm nuts and a very small proportion of rubber are processed prior to export.

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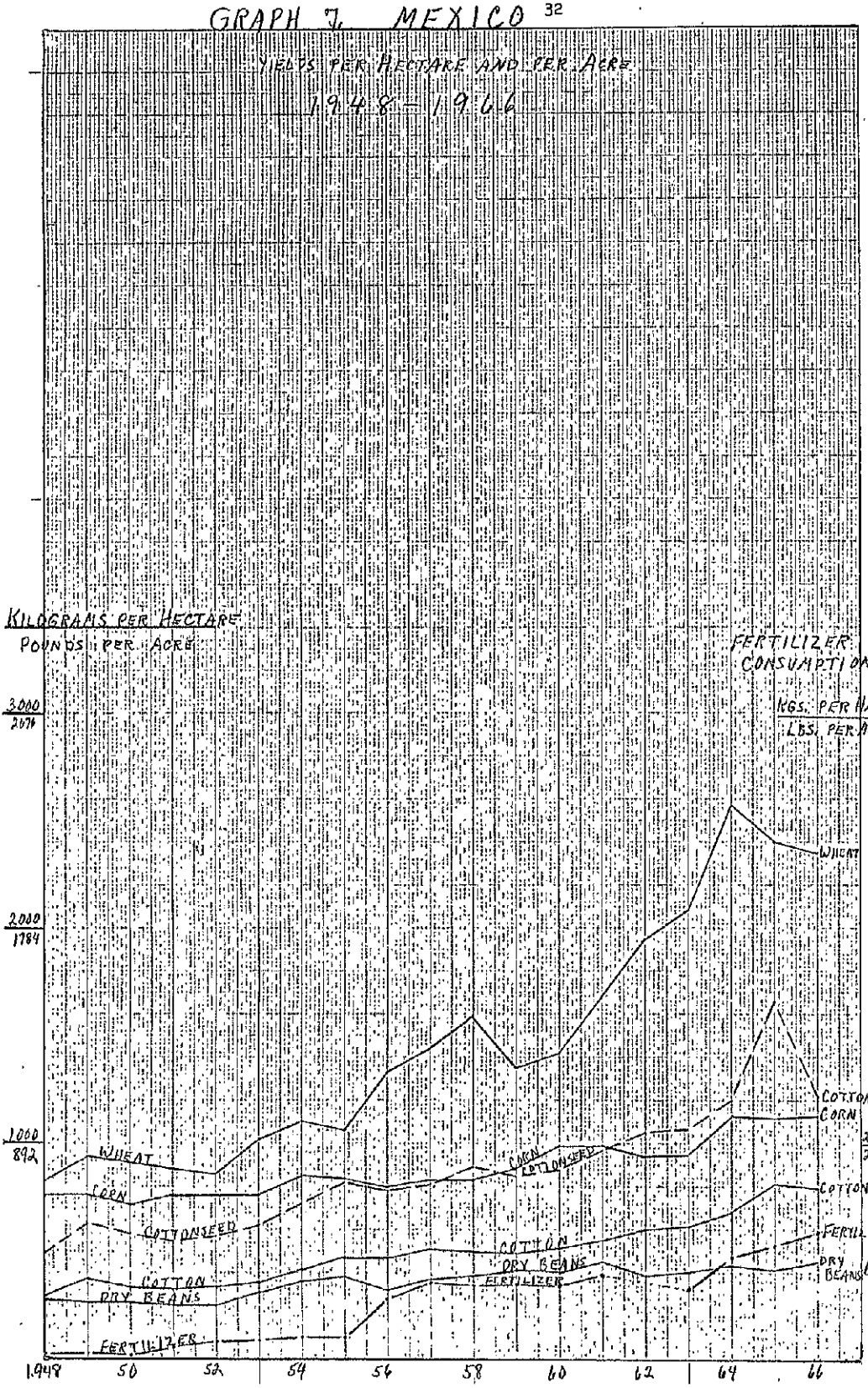
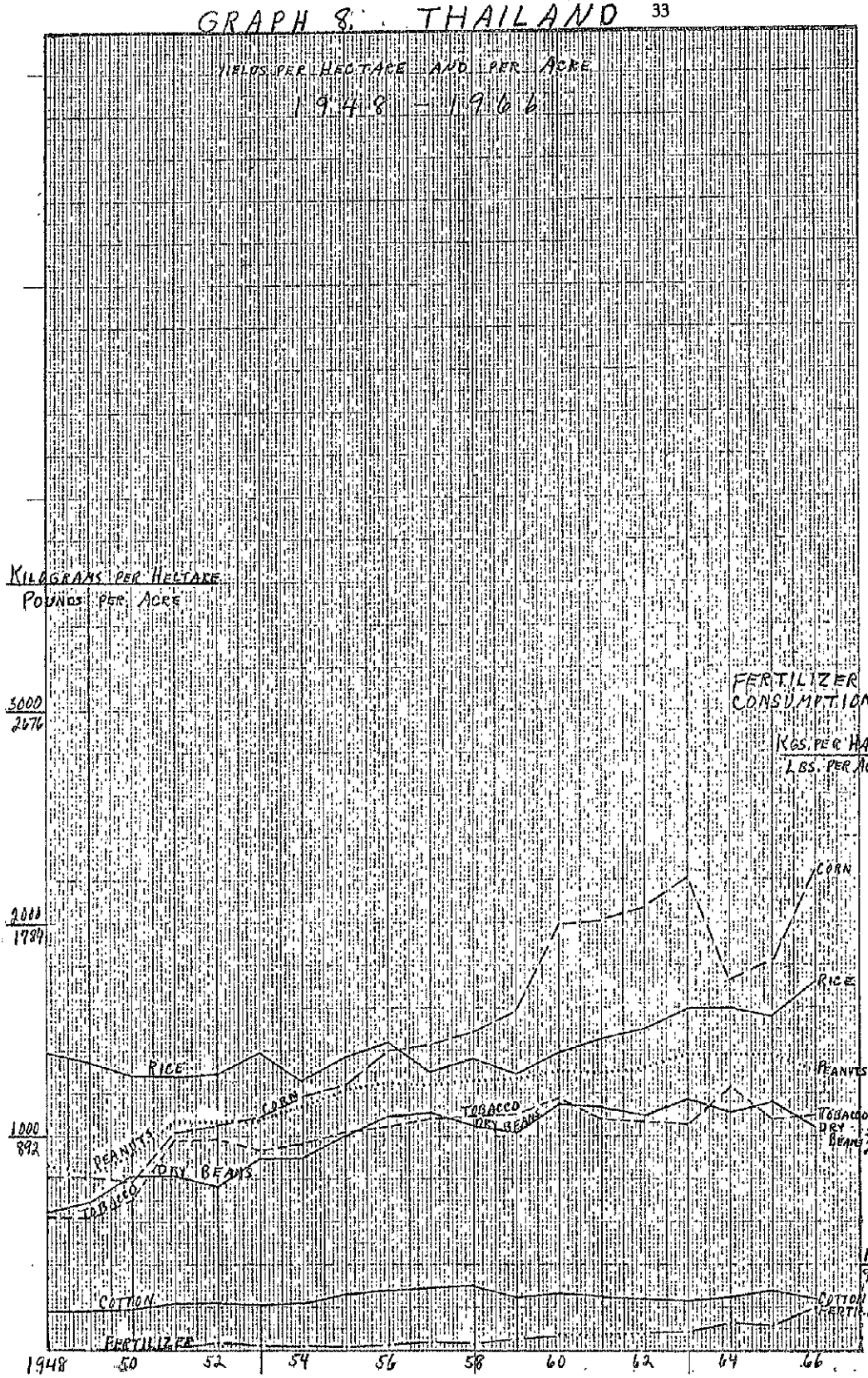
* See Section 4 for a comparison of agro-industry development in Taiwan and Thailand.

GRAPH 7. MEXICO

YIELDS PER HECTARE AND PER ACRE 1948–1966



GRAPH 8. THAILAND



SECTION 1-c. Some Problem Countries

Containing the graphs for:

Tunisia	Turkey
South Vietnam	Venezuela

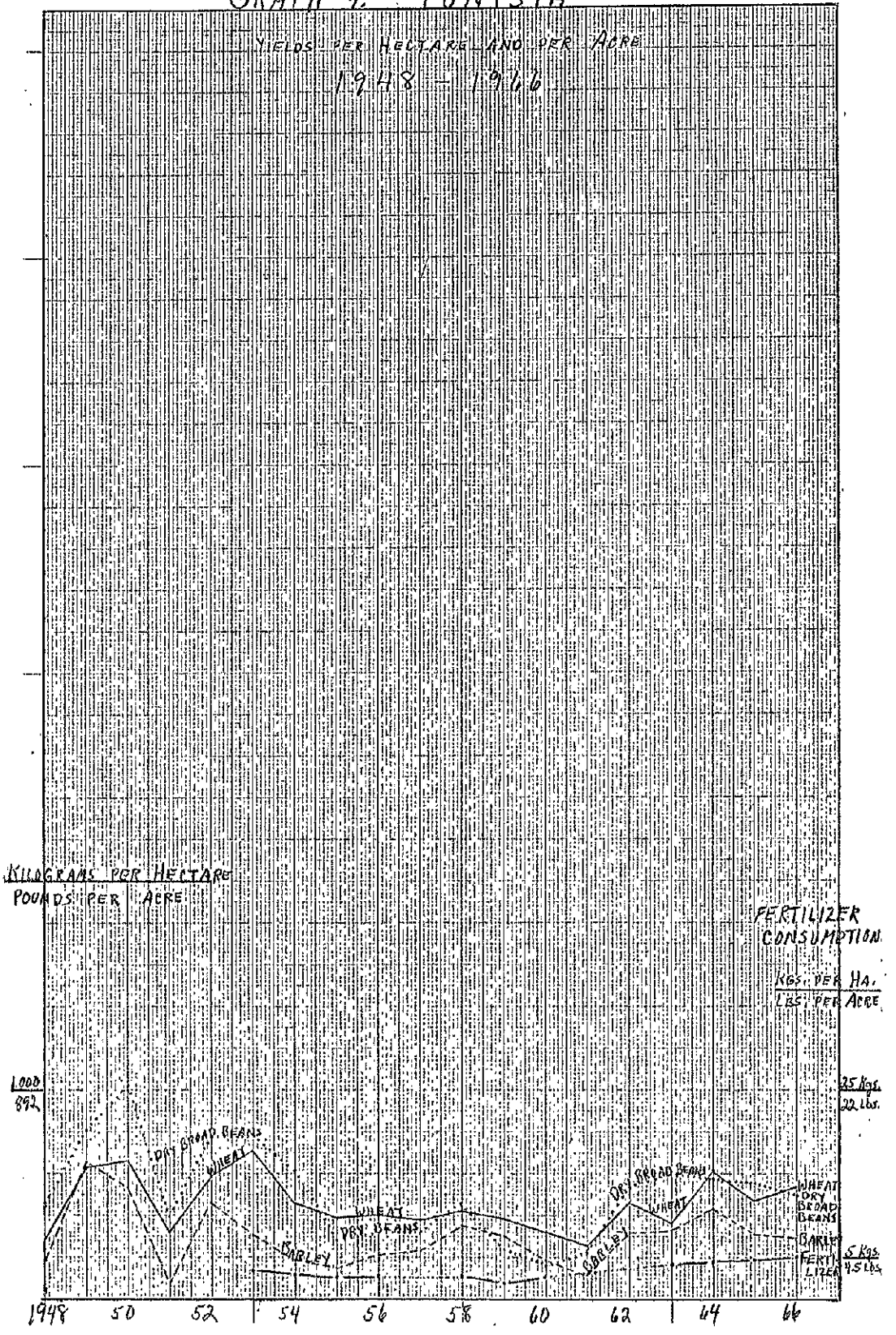
India, Argentina, and Brazil, though shown in Section 1-a above, are classified in this category. The graphs for Chile, Colombia, Indonesia, Iran and Pakistan and the tables for all the countries are in the Agricultural Appendix.

The 1966 population of the non-communist developing countries included in this study was 1,150 million. The 1966 population of the problem countries was 962 million, or 84% of the total.

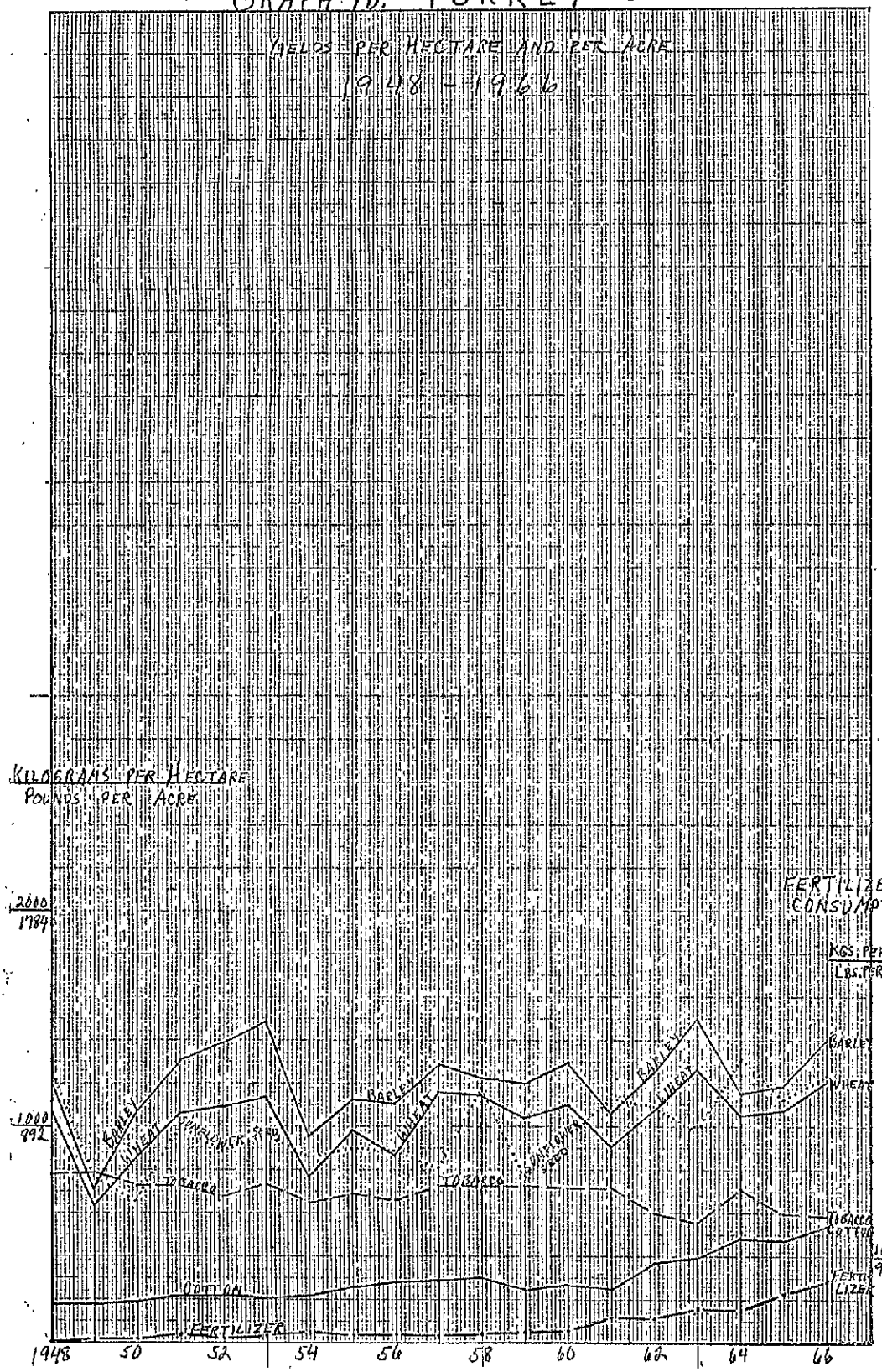
GRAPH 9. TUNISIA

YIELDS PER HECTARE AND PER ACRE

1948 – 1966

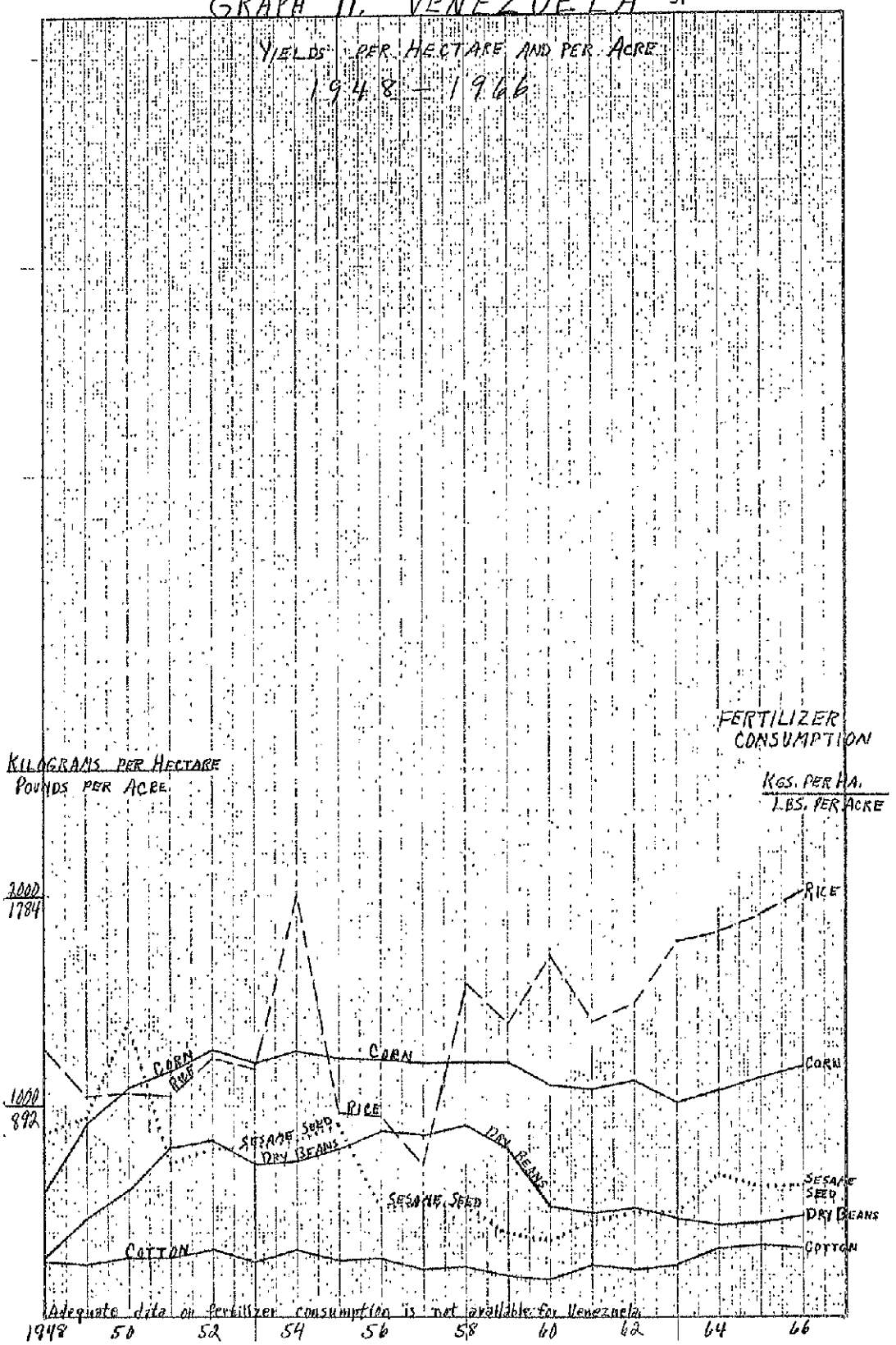


GRAPH 10. TURKEY



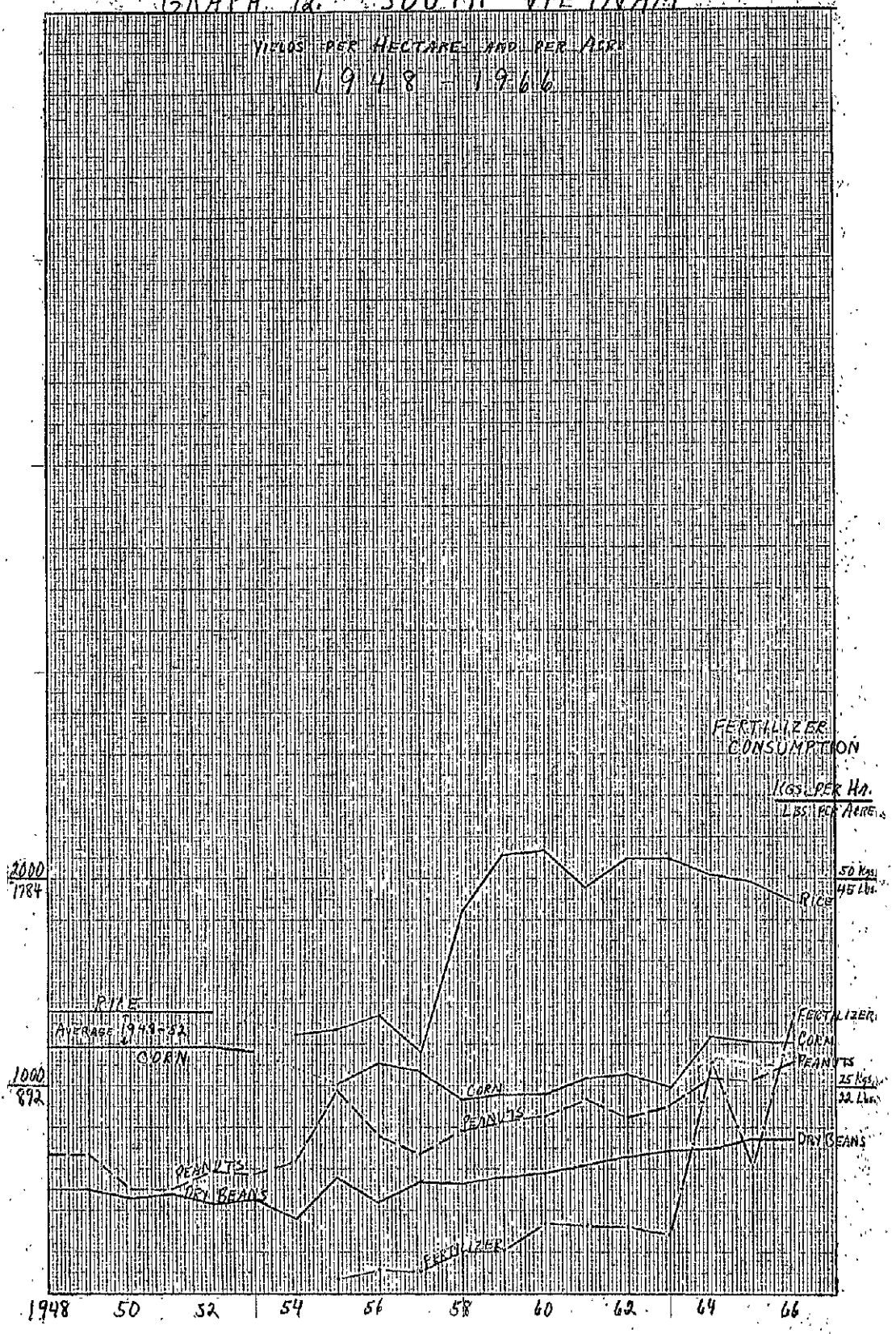
GRAPH II. VENEZUELA

YIELDS PER HECTARE AND PER ACRE 1948 – 1966



GRAPH 12. SOUTH VIETNAM

YIELDS PER HECTARE AND PER ACRE
1948 - 1966



SECTION 1-d

The Communist Countries of Eastern Europe and Cuba

(The graphs for Bulgaria, Cuba, and Yugoslavia are shown here. The graphs for Hungary, Romania and Poland and the tables for all six are in the Agricultural Appendix).

The mixed Communist record in agriculture suggests what Westerners would expect - a shift from doctrine to pragmatism is the route to economic progress. In general terms, pragmatism means two things, a greater reliance on economic concepts that have proven successful in Western countries, especially the market, and decentralization of economic decision-making. In the agricultural sector, there is now some scope for both individual initiative and group effort. The countries which have advanced the most in both pragmatism and productivity are Yugoslavia, Poland, Romania, Hungary, and Bulgaria. They are well ahead of Russia (which is presented in the next section). For Cuban agriculture, Castro, thus far, has been a catastrophe.

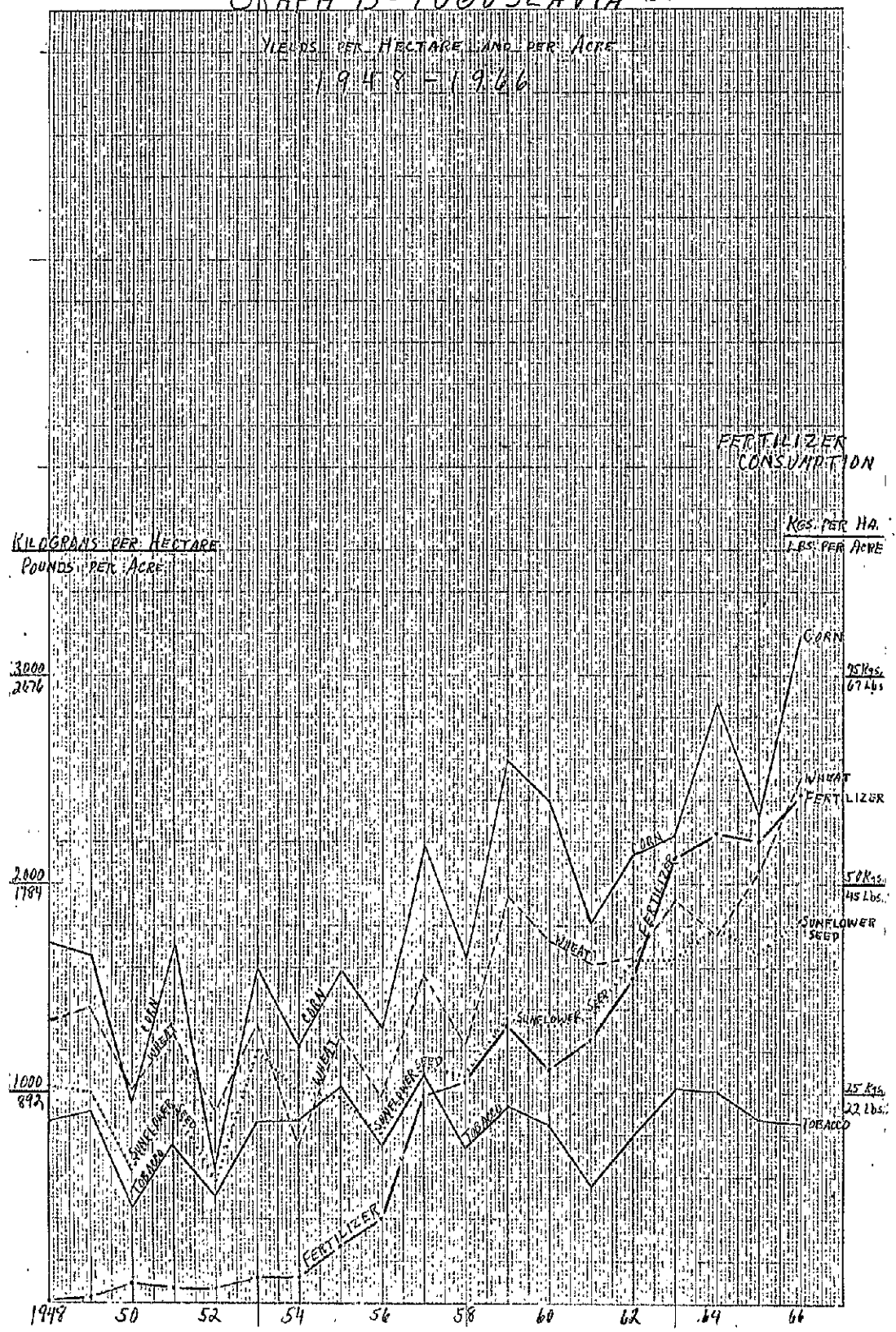
In the more pragmatic group, Yugoslavia, Romania, Hungary and Bulgaria were four of the poorest countries in Europe at the end of World War II. Per capita incomes were lower than in some of the Latin American countries (though higher than in the crowded Asian countries). The pattern of peasant agriculture, as it was usually called then, was similar to the pattern of what is now usually called subsistence agriculture in the non-Communist developing countries. That pattern is gradually becoming a relic of the past in Eastern Europe.

However much we deplore the inhumanity of Communist methods, I think we are obliged to admit that the Communists do possess a certain ability to achieve economic progress. In the Russian model, which is the most familiar to Westerners, forced industrialization has been the principal strategy of development. Agriculture has been the laggard for half a century. However, some of the East European countries never have imposed collectivized farming in the merciless Russian manner. Either they have abandoned this policy altogether, or else, having recognized its futility, they have decentralized much of the management of state farms to the farmers who work on them.

None of the "pragmatic" East European Communist countries can match the efficiency of Western Europe, North America, Japan, Taiwan, or Egypt. Nevertheless, they are advancing more rapidly, especially in the 1960s, than nearly all the developing countries of the non-Communist world as well, as more rapidly than the more doctrinaire Russians.

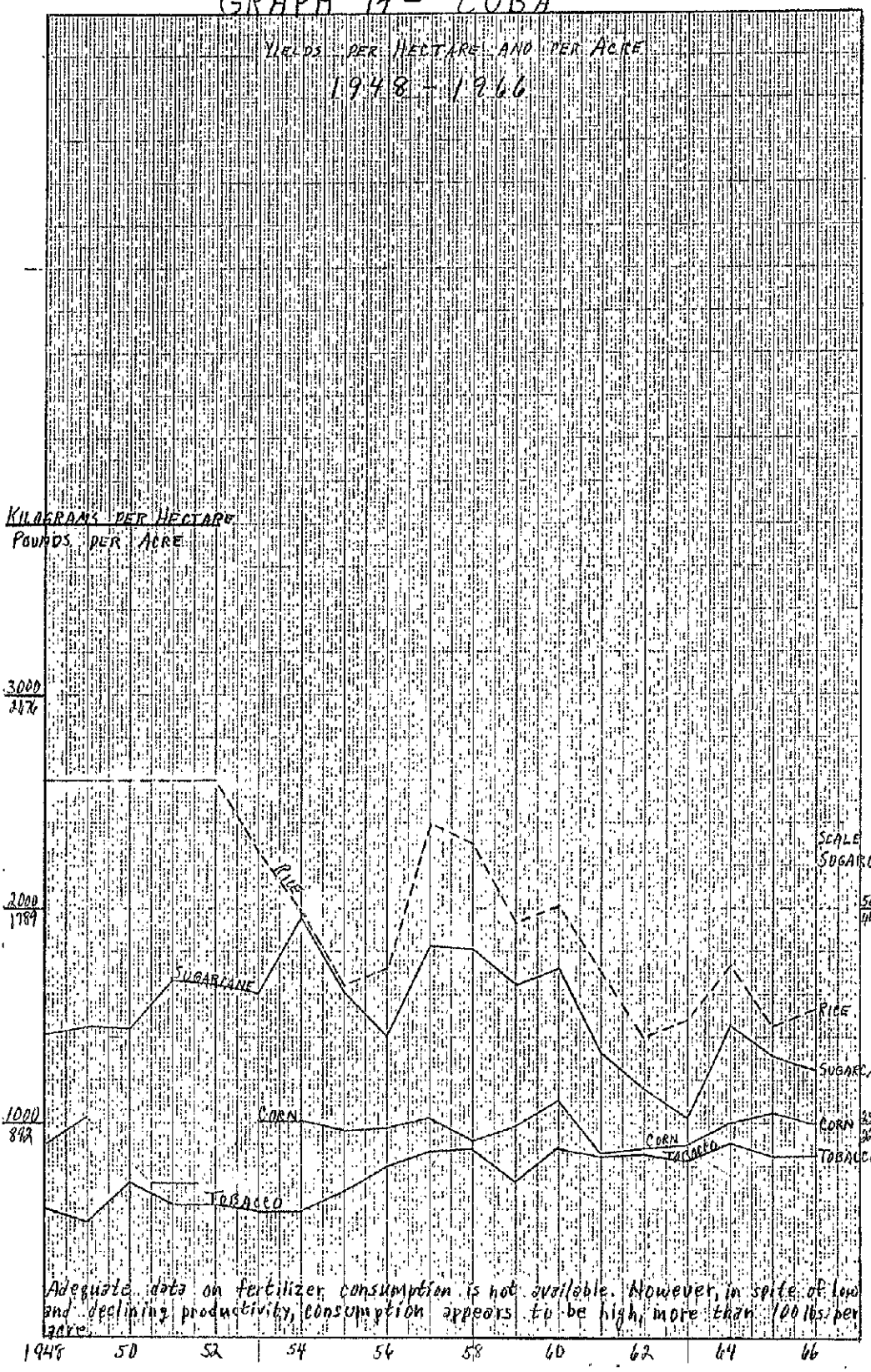
GRAPH 13 - YUGOSLAVIA No.

YIELDS PER HECTARE (AND PER ACRE)
1948 - 1966



GRAPH 14 - CUBA

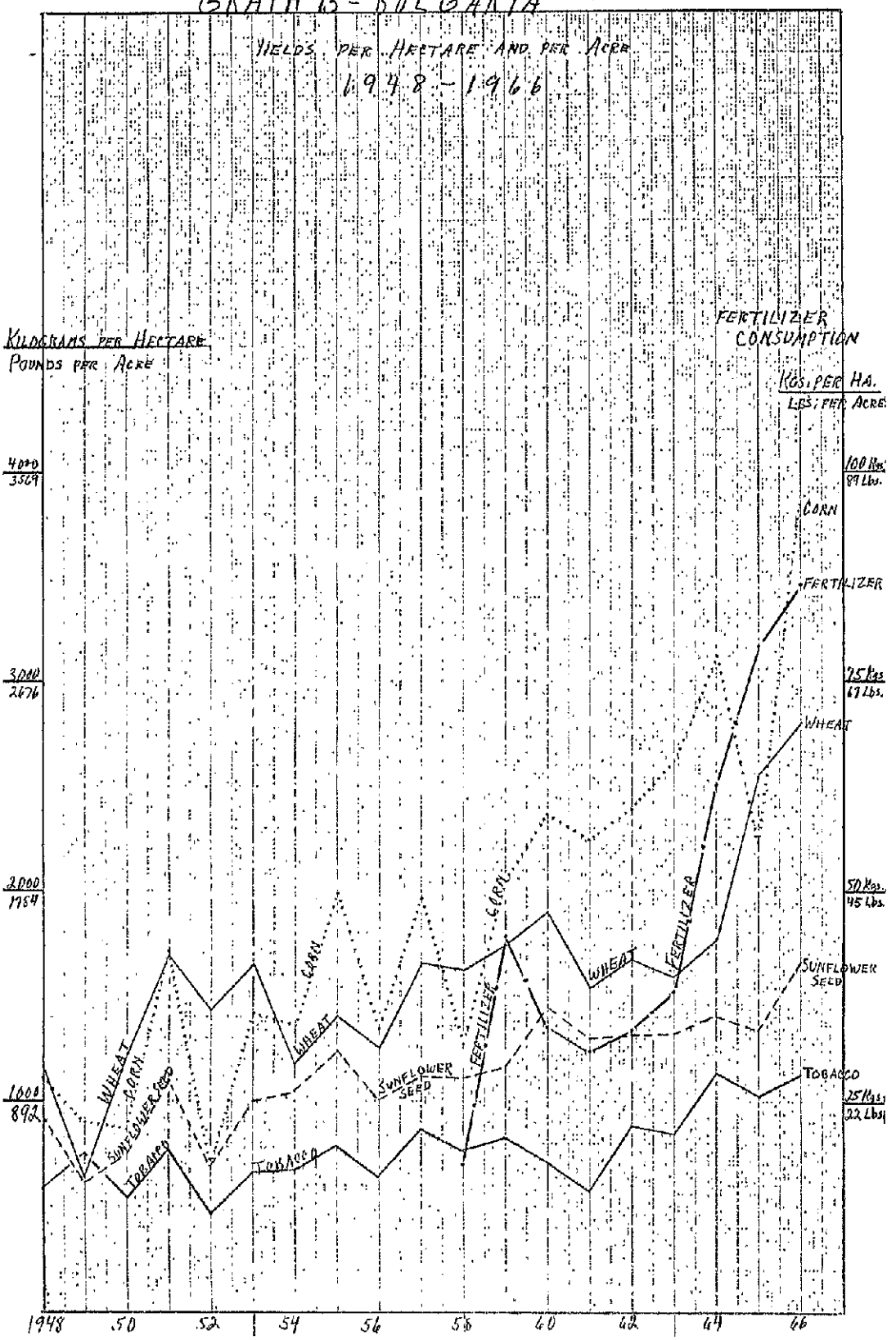
YIELDS PER HECTARE AND PER ACRE
1948 - 1966



Adequate data on fertilizer consumption is not available. However, in spite of low and declining productivity, consumption appears to be high, more than 100 lbs. per acre.

GRAPH 15 - BULGARIA

YIELDS PER HECTARE AND PER ACRE
1948 - 1966



SECTION 1-e

The United States

and

Russia

For which comparison no explanation is needed.

GRAPH 16 - UNITED STATES

YIELDS PER HECTARE AND PER ACRE
1948 - 1966

KILOGRAMS PER HECTARE
POUNDS PER ACRE

5000 / 4461
4000 / 3569
3000 / 2676
2000 / 1784
1000 / 892

RICE
CORN
MILLET & SORGHUM
SOYBEANS
WHEAT
FERTILIZER
COTTON

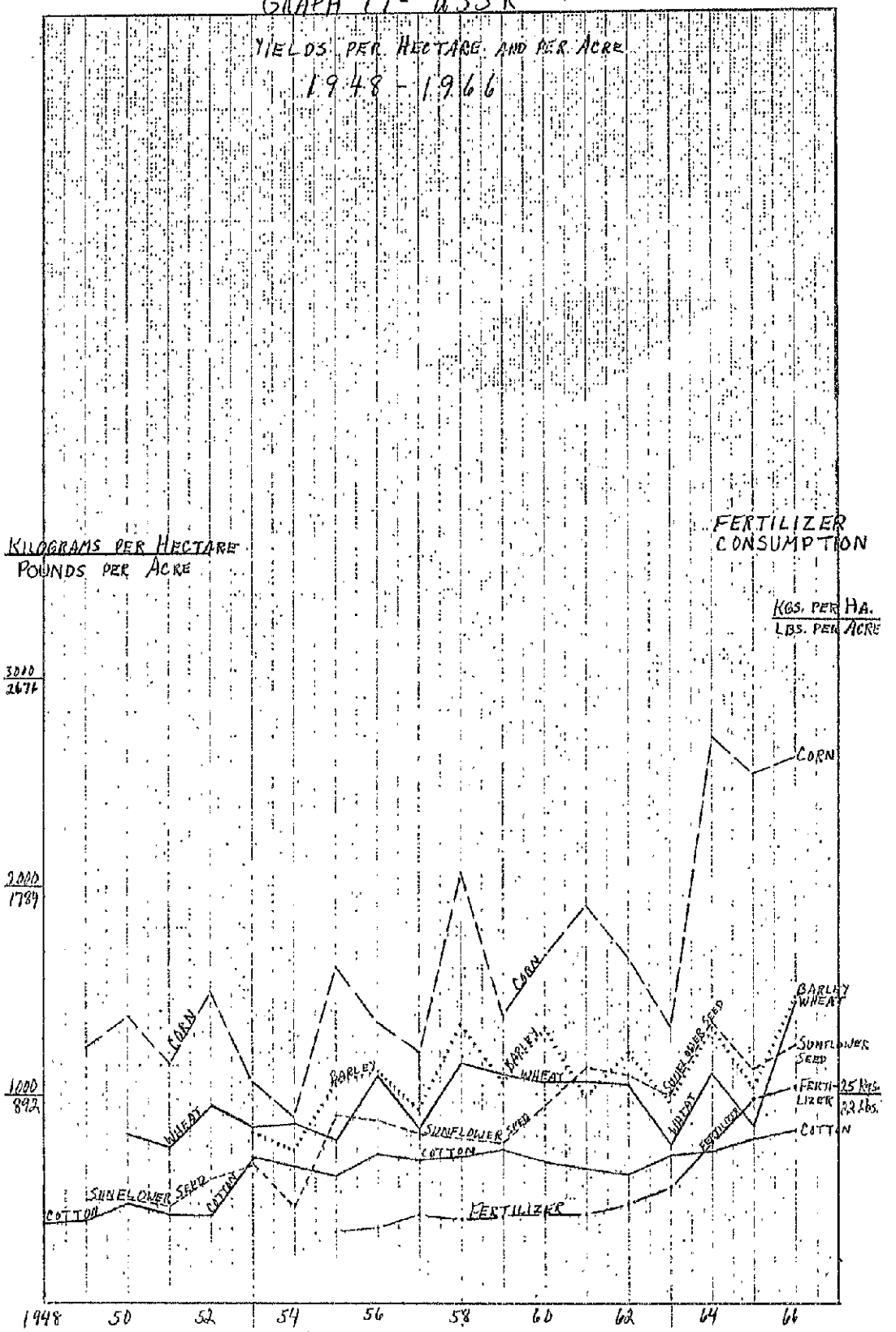
FERTILIZER CONSUMPTION
KGS. PER HA.
LBS. PER ACRE

75 Kgs. / 67 Lbs.
50 Kgs. / 45 Lbs.
25 Kgs. / 22 Lbs.

1948 50 52 54 56 58 60 62 64 66

GRAPH 17 - USSR

YIELDS PER HECTARE AND PER ACRE
1948 - 1966



SECTION 1-f. Crop Comparisons

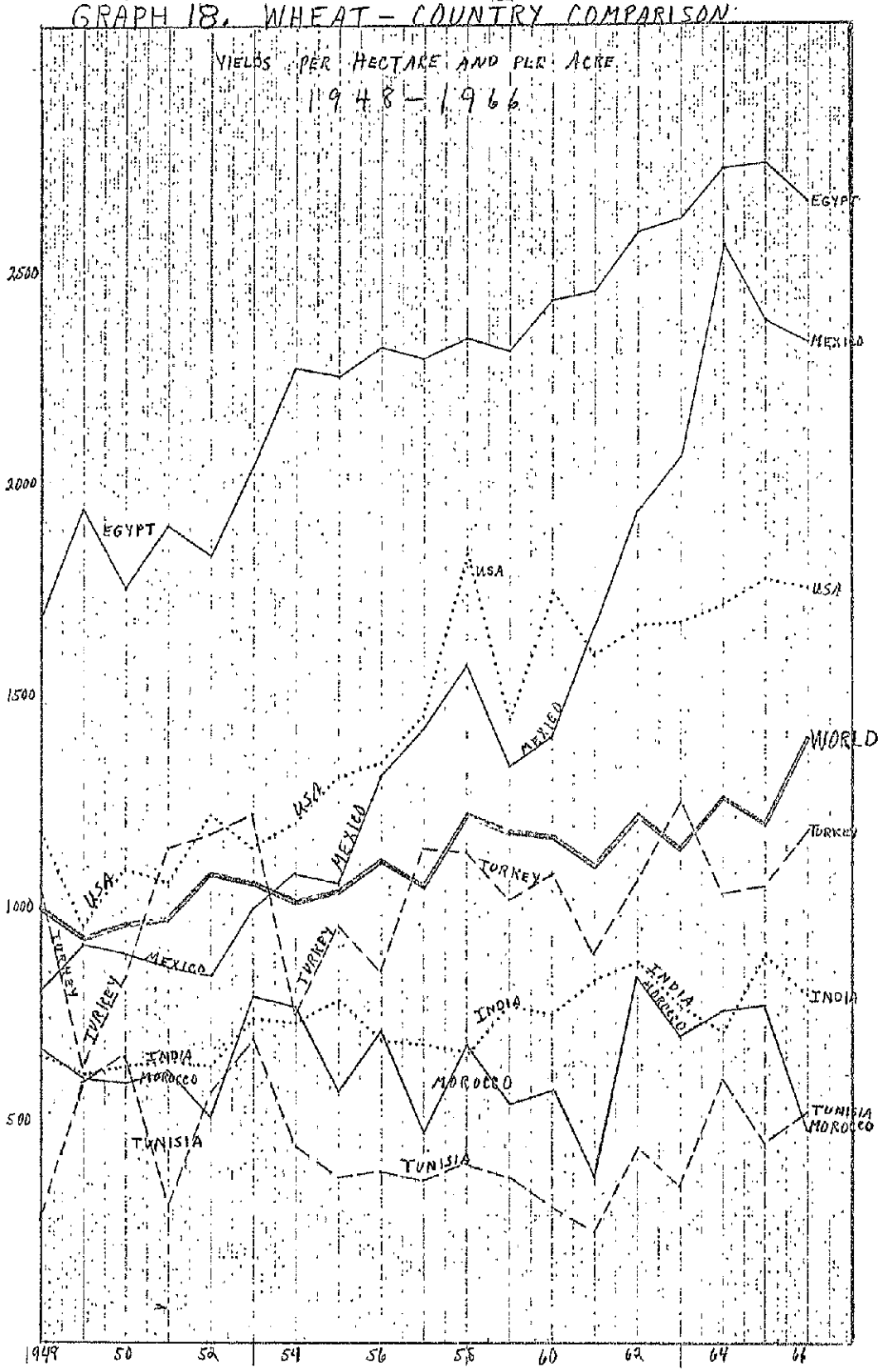
The graphs for wheat, rice and cotton are shown here.

The graphs for corn, tobacco, and sugarcane, and the tables for all six are in the Agricultural Appendix.

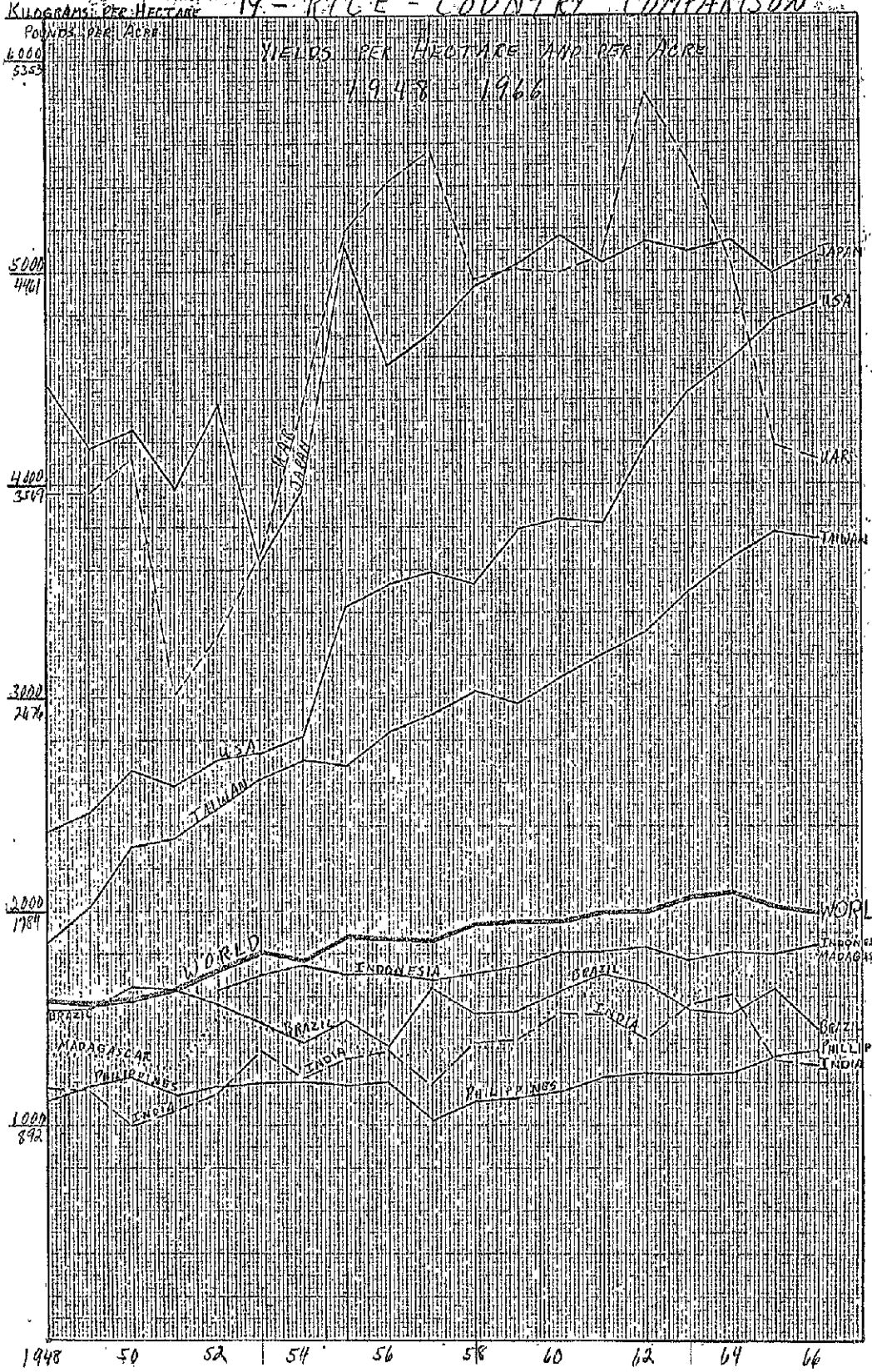
GRAPH 18. WHEAT – COUNTRY COMPARISON

YIELDS PER HECTARE AND PER ACRE

1948 – 1966



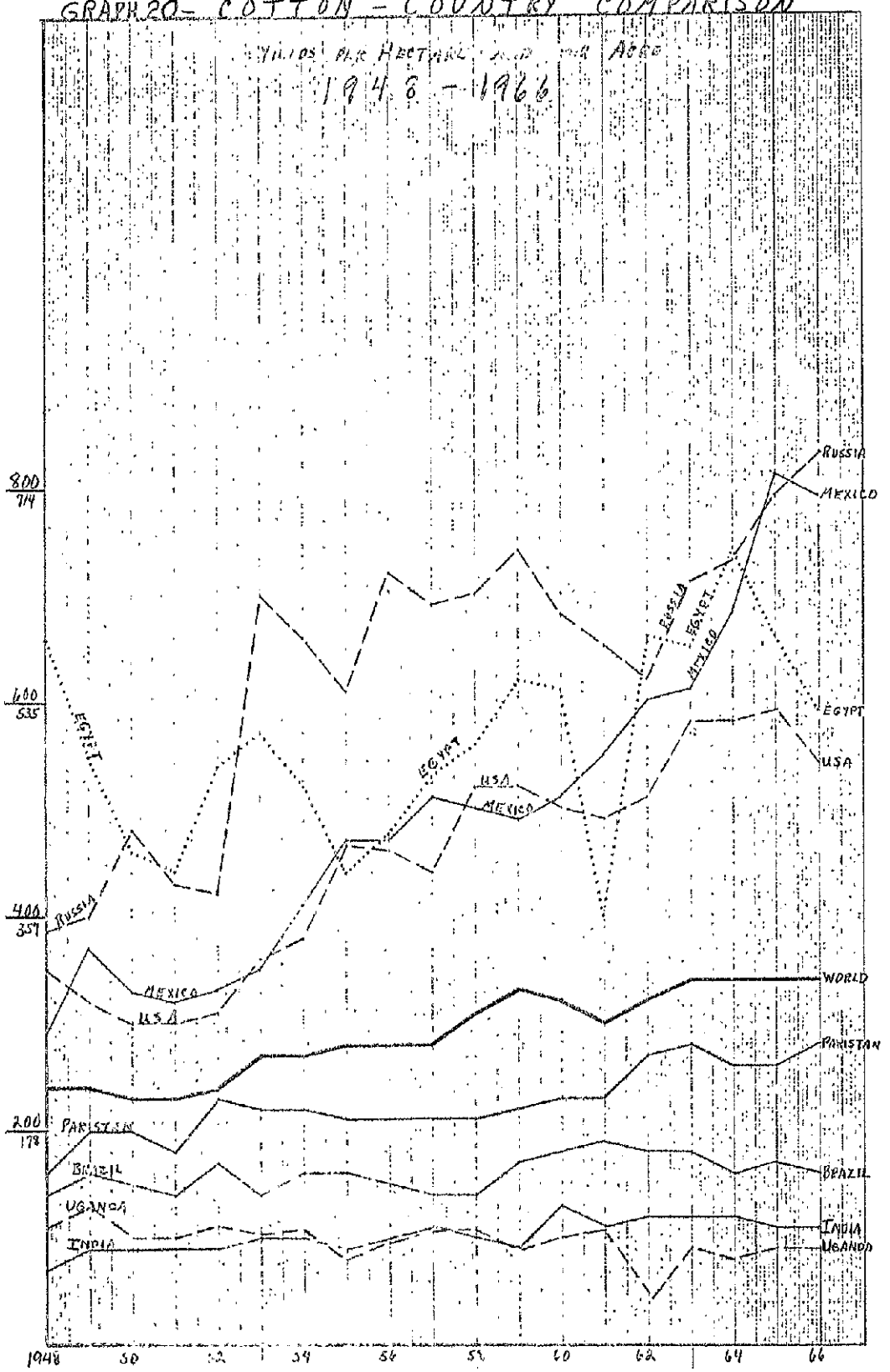
GRAPH 19 - RICE - COUNTRY COMPARISON



GRAPH 20 - COTTON - COUNTRY COMPARISON

YIELDS PER HECTARE AND PER ACRE

1946 - 1966



SECTION 1-g. Fertilizer Consumption

Fertilizer consumption in some countries is so low that it can only be measured in ounces per acre (see the table in the Agricultural Appendix).

In India and many other countries the amount of fertilizer used per acre is less than an American suburbanite uses on his lawn.

GRAPH 21 - FERTILIZER CONSUMPTION

1948 - 1966

KILOGRAMS per HECTARE
POUNDS per ACRE

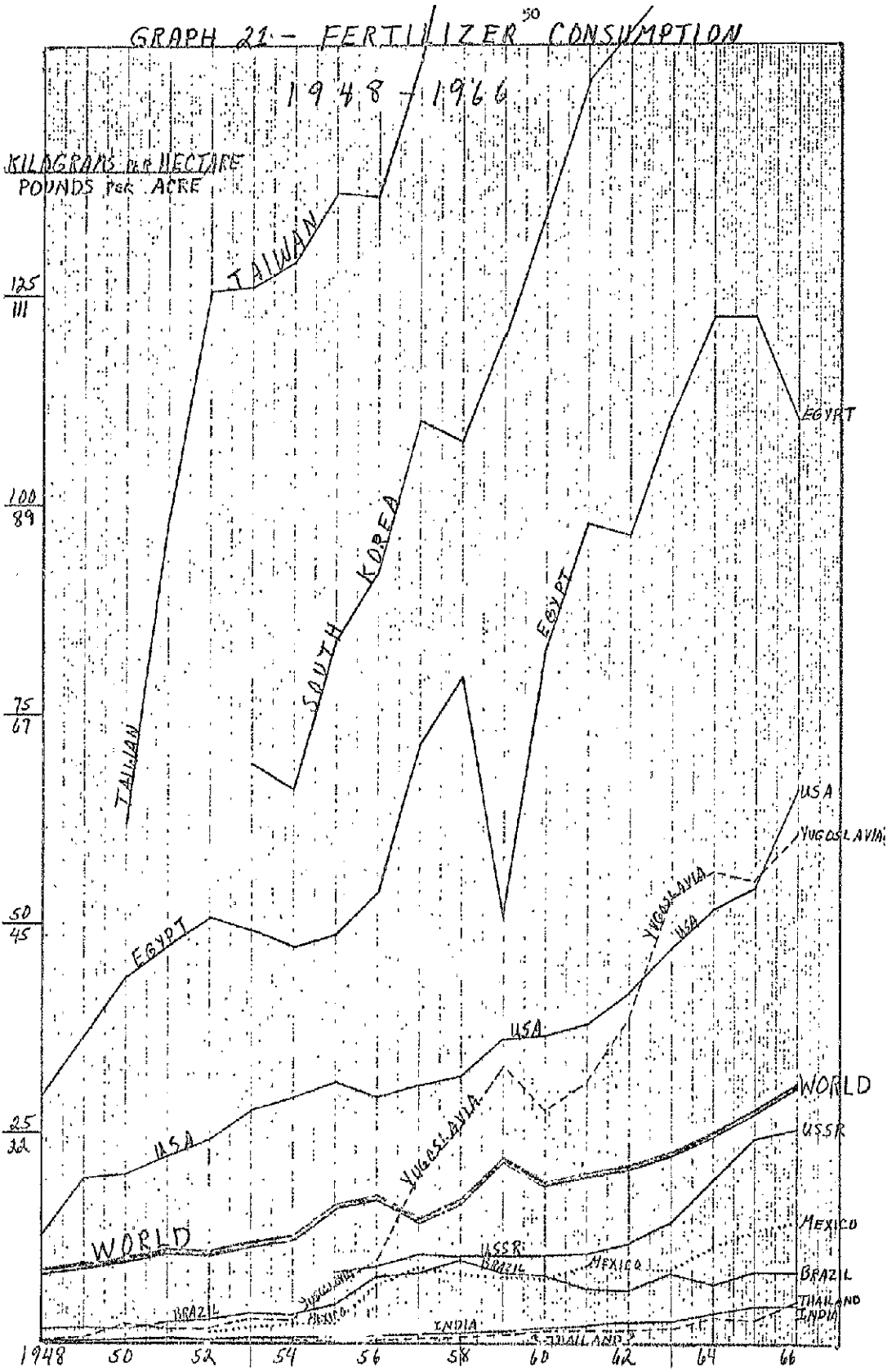
125
111

100
89

75
67

50
45

25
22



Section 1-g-1

The Significance of Cereal Crops

In a number of languages people do not say, as we do, "Have you eaten?" meaning, have you consumed several of the dozens upon dozens of different kinds of food which make up the normal diet of Westerners.

What people do say is, "Have you had rice?" (or wheat or corn, whichever is the cereal crop of the area).

Subsistence farmers do not think of "food" as consisting first of all of variety. Rather, they think of "food" as the cereal crop of their area. Unless a villager has enough of his cereal crop to last until the next harvest he fears he will starve. He does not assume, as we do, that if he does not eat one food he will eat another because he does not have the cash income to purchase food if his own crop fails. This extreme dependence on just one crop, which the farmer grows himself, is the real meaning of the word "subsistence" and the reason why it can be said that subsistence farmers live on the edge of starvation.

The three tables which follow are based on the premise that progress in the cereal crops is one of the best indicators of agricultural progress in general. The three tables represent an effort to convert the basic statistics on cereals productivity into indices which can be used to compare the relative productivity and the rate of progress in the "non-political development" countries with what the modern countries have already proved is technologically possible.

The first table summarizes the basic data on cereals productivity, i.e., the average yield per acre for all cereal crops grown in each country. The reader will note that in the "political development" countries yields per acre are now several times higher than in the "non-political development" countries and that the amount of increase in the first group between 1948 and 1966 is several to many times higher than in the second group.

Table 1A is an index of relative productivity. It is a comparison of the average yield per acre for all cereal crops in each country with the average yield of all cereal crops in Japan. For purposes of comparison Denmark, the Netherlands, the United Kingdom, the United States, and Russia are shown on this and the following table. The reader will note that, <u>without exception</u>, relative productivity in the "non-political development" countries has declined since 1948, in a few of them by as much as one fourth or one third or even more. In spite of twenty years of agricultural development programs the gap between the modern and the poor countries is still increasing! However, the figures in the "political development" countries show that, in fact, it is possible to narrow the gap, although only three of them, Taiwan, South Korea, and Bulgaria are narrowing it rapidly. In several of the "political development" countries, including Denmark, the Netherlands, and Egypt, relative productivity has declined somewhat. What this means is that the high rate of progress achieved by these countries has nevertheless been exceeded by Japan.

Table 1B is an Index of Progress, that is, a comparison of the increase in yields per acre in each of the countries with the increase in Japan for the same time period. The reader will note that the rates of progress in the "political development" countries are very much higher than in the "non-political development" countries.

The method of calculation of the two indices is explained in Appendix 3.

TABLE 1

INCREASE IN YIELDS PER ACRE - ALL CEREAL CROPS, 1948-50 TO 1964-66

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	1948-1950	1964-1966	INCREASE	Country	1948-1950	1964-1966	Increase
	(Pounds per Acre)				(Pounds per Acre)		
1.TAIWAN	1799	3242	1443	1.Mexico	699	1154	455
2.BULGARIA	880	2173	1293	2.Venezuela	773	1133	360
3.EGYPT	2121	3043	922	3.Chile	1123	1454	331
4.SOUTH KOREA	1642	2559	917	4.Argentina	1082	1394	312
5.YUGOSLAVIA	1144	2050	906	5.Thailand	1189	1477	288
6.ROMANIA	845 1/	1654	809	6.Turkey	833	1049	216
7.HUNGARY	1298	2034	736	7.India	641	807	166
8.POLAND	1130	1602	472	8.Peru	1226	1379	153
				9.Indonesia	1240	1391	151
				10.Pakistan	1036	1136	100
				11.Colombia	914	1003	89
				12.Brazil	1169	1194	25
				13.Philippines	932	937	5
				14.Tunisia	440	426	-14
				15.Morocco	600	551	-49
				16.Cuba	1062 2/	1007	-55
				17.Iran	898	765	-133
Comparative Countries							
1.UNITED STATES	1496	2579	1089				
2.UNITED KINGDOM	2156	8189	1033				
3.JAPAN	2922	3933	1011				
4.NETHERLANDS	2577	3369	792				
5.DENMARK	2672	3438	766				
6.USSR	724 2/	1138	307				

Note: 1. 1950-52.

2. 1948-52.

TABLE 1A

INDEX OF RELATIVE PRODUCTIVITY - CEREAL CROPS, 1948-50 TO 1964-66
(Ranked According to Relative Productivity, 1964-66)

JAPAN = 100

POLITICAL DEVELOPMENT COUNTRIES	Index Number 1948-1950	Index Number 1964-1966	CHANGE
COUNTRY			
1.EGYPT	87	80	-7
2.TAIWAN	59	80	21
3.SOUTH KOREA	57	69	12
4.BULGARIA	37	61	24
5.POLAND	57	60	3
6.HUNGARY	58	56	-2
7.YUGOSLAVIA	50	54	4
8.ROMANIA	36 1/	43	7

Non-Political Development Countries	Index Number 1948-1950	Index Number 1964-1966	Change
Country			
1.Argentina	46	43	-3
2.Chile	44	41	-3
3.Peru	50	36	-14
4.Thailand	39	36	-3
5.Indonesia	42	34	-8
6.Turkey	45	31	-14
7.Mexico	31	30	-1
8.Brazil	48	29	-19
9.Pakistan	36	29	-7
10.Venezuela	35	28	-7
11.Cuba	43 2/	25	-18
12.Colombia	37	25	-12
13.Philippines	33	23	-10
14.India	24	22	-2
15.Iran	34	21	-13
16.Morocco	24	16	-8
17.Tunisia	23	12	-11

Comparative Countries			
1.DENMARK	123	110	-13
2.NETHERLANDS	120	109	-11
3.UNITED KINGDOM	93	101	8
4.JAPAN	100	100	-
5.UNITED STATES	66	69	3
6.RUSSIA	32 2/	32	0

Note: 1. 1950-52.

2. 1948-52.

TABLE 18 INDEX OF PROGRESS - PRODUCTIVITY OF CEREAL CROPS, 1948-50 to 1964-66

JAPAN = 100

POLITICAL DEVELOPMENT COUNTRIES	
1. TAIWAN	216
2. SOUTH KOREA	159
3. BULGARIA	146
4. YUGOSLAVIA	76
5. POLAND	75
6. EGYPT	74
7. ROMANIA	67
8. HUNGARY	62

Non-Political Development Countries	
1. Thailand	41
2. Chile	36
3. Mexico	35
4. Turkey	32
5. Argentina	30
6. Venezuela	30
7. Indonesia	22
8. India	22
9. Pakistan	14
10. Philippines	9
11. Peru	8
12. Colombia	6
13. Brazil	0.6
14. Tunisia	-5
15. Morocco	-10
16. Cuba	-18
17. Iran	-18

Comparative Countries	
1. UNITED KINGDOM	133
2. JAPAN	100
3. DENMARK	96
4. NETHERLANDS	92
5. UNITED STATES	79
6. RUSSIA	43

SECTION 1-h

Characteristics of a Miniculture Revolution

Table 4 is intended to highlight certain characteristics of what might more accurately be described as a "miniculture revolution" rather than an agricultural revolution, that is, a productivity breakthrough on coontless millions of postage stamp-sized farms in the style of the Japanese, not the American, agricultural revolution. In the agricultural revolutions of the Western countries farm labor was gradually displaced by machines designed for that purpose and the population shifted from rural to urban. In the United States, for example, in this century, the agricultural labor force has declined by fifty per cent while the population has trebled. The miniculture revolution is primarily labor intensive not capital intensive. The purpose of machinery is to supplement human effort, not replace it, to keep farmers on their farms, not force them into cities. The difference in the two types of agricultural revolutions leads to very different interpretations of the current problem in crowded countries, such as India.

In discussions of problems being created by rapid population expansion, India is often cited as an example of a country in which population might outstrip agricultural production. There is said to be little land to feed such an enormous population. India is about the same size as Argentina but has 25 times as many people; or the size of the United States east of the Mississippi but with two and a half times the population of the whole of America.

The rural population is said to be larger than the number of people who can be employed in agriculture and other rural occupations. The surplus is crowding into the cities in search of jobs that cannot be created fast enough to absorb both the natural increase in the urban population and flocks of rural migrants. By Western standards, and especially Western Hemisphere standards, this interpretation may be valid. By Asian standards it is not.

Table 10 below shows that there appears to be no relationship between progress in agriculture and the amount of arable land, or the average size of a farm or the relative size of the agricultural labor force.

India has four times as much cultivated land per person as the UAR and South Korea, five times as much as Japan and Taiwan, and four fifths as much as Yugoslavia is using now.* This is shown in the first column of the table below.

Finally, it is not necessarily valid to assume that the population explosion is creating a surplus of labor in rural India and other crowded countries. Japan has three times as many agricultural workers per 100 acres as India. Taiwan and Egypt have twice as many, and an agricultural revolution can create agriculture jobs even in crowded countries. Agricultural employment in Taiwan in 1965 was actually 12.8% higher than in 1950, in the UAR it was 11.5% higher. In Japan, agricultural employment also rose during the first half century following the Meiji Restoration of 1868.

Thus, certain characteristics of the miniculture revolution in Japan, Taiwan, and Egypt suggest that the immediate problem in many crowded countries today is not too many people on very small farms. The problem is agricultural development policy.

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* Yugoslavia has some land that could be brought under cultivation but is now used as pasture or forest.

TABLE 1-C

Selected Characteristics of a Miniculture Revolution

Country	Cultivated Land per Person (acres)	Average-Size Farm (acres)	Number of Agricultural Workers per 100 Acres 1960s*
JAPAN	.15	2.5	101.2
TAIWAN	.17	2.7	67.5
SOUTH KOREA	.19	2.4	88.4*
EGYPT	.23	na	67.5
Indonesia	.42	3.6	na
South Vietnam	.41	3.8	na
Peru	.56	7.4	24.5*
Philippines	.59	na	33.7
Pakistan	.65	na	33.7
Colombia	.67	na	21.3
India	.80	7.5	33.7
Brazil	.88	2.2	28.9
Thailand	.88	8.6	45.0
YUGOSLAVIA	1.04	7.8	22.5
Iran	1.17	15.3	9.0
POLAND	1.22	10.8	16.8
Chile	1.27	na	4.8
ROMANIA	1.36	na	24.9*
Mexico	1.33	43.1	9.9
BULGARIA	1.37	na	23.2*
HUNGARY	1.37	na	11.0*
Morocco	1.41	na	10.5*
Venezuela	1.45	40.3	12.6
Turkey	2.04	18.9	15.6
Argentina	2.12	10.2	2.0
Tunisia	2.40	na	7.5
UNITED STATES	2.76	123.3	1.0*
USSR	2.55	na	14.6*

*
The figures in this column are taken from "Changes in Agriculture in 26 Developing Nations", U S. Department of Agriculture, Washington,D.C. 1965, Table 49, p. 64, except those with an asterisk, which were calculated by the author.

SECTION 1-i. Farm-to-Market Roads

It is axiomatic to say that there needs to be an adequate network of farm-to-market roads in modern rural society if farmers are to have access, conveniently and quickly, to a market where they can sell their surplus production. For this reason simple, often single-lane dirt roads have long been included in rural community development programs. Thus far, however, there has been no commonly-accepted standard of measurement to determine when a country has enough of such roads, whether the rate of construction should be judged reasonably fast or unreasonably slow. Such a standard is proposed in this section.

In Western countries that have already achieved an agricultural revolution, the ratio of farm-to-market roads is around three miles of such roads for each square mile of cultivated land. In several Asian countries that have made rapid agricultural progress in this century the ratio turns out to be about the same. These countries are Japan, Taiwan, and South Korea. In East Pakistan the ratio is now almost two and one half to one, and new roads are still being added to the network. It is also true that countries which appear to be seriously short of these roads are among the lowest productivity countries in the world.

That the ratio in Asia is turning out to be similar to the ratio in Western countries suggests that the relationship of roughly three to one might be taken as an indicator for the developing countries in general, at least until further studies are done. To the writers' knowledge, the number of miles of farm-to-market roads a country needs has never been analyzed carefully.

Most of the road statistics in the table below are taken from the Statesman's Yearbook, an annual English publication. A few of the figures are taken from national statistics compilations. Many countries report only the mileage of paved roads - one indication of the neglect of this subject. These partial statistics tend to support our conclusion that many of the developing countries are seriously short of farm-to-market roads. In Israel, Egypt, and Communist East Europe the number of paved roads per square mile of cultivated area exceeds the combined total of paved and dirt roads per aquare mile in the last eight countries in the table below.

TABLE 2. FARM-TO-MARKET ROADS

Country	Cultivated Area Square Miles	Miles of Farm-to-Market Roads	Ratio of Roads to Area
SWEDEN	12,394	48,873	3.94 to 1
U.S.A.	714,988	2,348,000	3.28
FRANCE	80,417	260,820	3.24
JAPAN	23,181	74,752	3.22
SOUTH KOREA	8,710	24,592	2.82
DENMARK	10,456	29,000	2.81
TAIWAN	3,436	9,165	2.67
East Pakistan	46,875	115,361	2.45
Peru	10,108	23,133	2.29
Chile	17,417	33,251	1.91
Colombia	19,486	30,911	1.59
Philippines	30,633	34,894	1.14
South Viet Nam	11,332	12,437	1.10
Cuba	7,606	8,291	1.09
India	625,251	494,113	.79
West Pakistan	53,592	42,655	.71
Indonesia	68,266	50,301	.74
Tunisia	16,734	9,745	.58
Iran	44,761	21,201	.47

Note: The metric equivalent of this formula is approximately one and three fourths kilometers of farm-to-market roads per square kilometer of cultivated area.

Section 2 - Industrialization

The most important generalization that can be drawn from this Section and from Section 4 on Exports must be expressed as an hypothesis: it may be that the fastest way to create jobs in factories is to double and treble the yields of rice and wheat and corn on two and a half acre farms. The tables and graphs in this Section show that industrialization is proceeding fastest in the very same countries which are also making rapid progress in agriculture on small farms.

Market expansion based on rapidly rising incomes among the mass of the rural population is the first part of the explanation of this hypothesis. In Taiwan, for example, farmers now live in brick houses with permanent floors, not flimsy huts with dirt floors. Many have electricity, water, and adequate sanitation. They are able to buy household equipment and other consumer goods such as bicycles, transistor radios and more clothing. They can pay for better medical care for their families and better education for their children. The total national demand for goods and services is increased substantially when this kind of buying power exists in the countryside simply because the largest proportion of the populations of the developing countries live in villages and small towns. This kind of purchasing power does not exist in India or Brazil or most of the developing countries because the mass of villagers who continue to farm at the level of subsistence cannot afford better houses, utilities, consumer goods, and more and better personal services. A study done in Mexico several years ago showed that two fifths of the people purchase 90% of consumer goods. Three fifths of the people are able to purchase only 10%. The geographic distinction between the two groups in Mexico is primarily urban-rural. The Mexican situation of sharply limited buying power in rural areas is the typical situation throughout the underdeveloped world.

The second part of the explanation of the hypothesis expressed above is the deliberate integration of agriculture and industry through what are often called "agro-industries", that is, factories and other economic facilities that are directly related to agriculture. Thus, Taiwan has emphasized packaging, freezing, and canning plants, fertilizer factories and sawmills, warehouses and cold storage plants, pesticide mixing plants and feedmills. India and Brazil have been emphasizing steel mills and other heavy engineering plants.* Generally speaking, the latter group requires relatively more capital and creates relatively fewer jobs than the first group. They are city-oriented, not rural-oriented. One conclusion that can be drawn from this study is that these "basic industries" do not necessarily induce farmers to use fertilizer. However, farmers who want fertilizer will induce entrepreneurs to build fertilizer factories. Thus, the fondness of many of the governments of the developing countries for "prestige" projects may be misplaced. They might better follow the humbler policy of Taiwan, or of Japan in the first decades of her modernization. "It was the expansion of Japan's basic economy - agriculture and small scale industry built on traditional functions - which accounted for most of the growth of national productivity and income during this period (1868-1914)".**

The information available on industrialization is not adequate for comprehensive analysis, but it is sufficient to suggest trends within the countries and to identify a sharp difference in the rate of progress between the "political development" and the "non-political" development countries. There are tables on four subjects:

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* The author of a recent study on industrial policy in Brazil argues that the emphasis on heavy industry in the 1960s has slowed down the overall rate of economic growth. See Donald Huddle, "Notes on Brazilian Industrialization: Sources of Growth and Structural Change", Yale University Economic Growth Center, Yale University, New Haven, 1967.

** William W. Lockwood, op.cit., p. 25.

1. Manufacturing. Table 3 shows the total increase in manufacturing output from 1953 to 1967 and the average annual rate of increase. This is perhaps the best single measure of industrialization.

2. Job Creation and Population. The ability of the developing countries to create new jobs faster than the population is increasing is one of the keys to political and social stability as well as an indicator of economic progress. Information on this subject is, however, sparse. Data on total non-agricultural employment is available for most of the political development countries but for only two of the non-political development countries, Turkey and the Philippines. Statistics on manufacturing employment only are available for a larger number of countries, nine in each category. Both sets of data are shown on Table 4.

Generally speaking, Table 4 shows that:

a. The rate of job creation tends to be substantially higher in the political development countries.

b. Some of the non-political development countries have been able to create jobs more rapidly than the population is increasing. However,

c. The margin between job creation and population increase is high in the political development countries but slight in the non-political development countries.

3. Production of Electricity. The graph which accompanies Table 5 is drawn to permit visual comparison between political development and non-political development countries, as follows:

a. In 1948 the production of electric power per person in Argentina was one fifth higher than in Puerto Rico. In 1966 per capita production in Puerto Rico was more than two and a half times higher than in Argentina.

b. In 1948 power production in Chile was four times higher than in Yugoslavia. By 1966 it was 15% higher in Yugoslavia.

c. In 1949 production in Taiwan and West Malaysia was almost identical. By 1966 it was twice as high in Taiwan.

d. The margin of difference between Egypt and India increased three times. This table introduces a division of countries between "middle income" and "low income" which is used on a number of tables throughout the remainder of this study. The "middle income" group are those in which per capita income in 1950 was approximately $200 a year or higher. In the "low income" group per capita income in 1950 was actually less than $100 in most of them.

4. Consumption of Sources of Energy. This table measures the total consumption for all purposes of the different sources of energy - coal, coke, lignite, peat, petroleum, natural gas, hydro and nuclear power. It does not include the traditional sources of energy used by villagers, wood, grass, straw, and, in some countries, dung. However, the differences between countries reflect the use of modern, not traditional, energy sources. The various sources of energy are measured in terms of coal equivalent and this figure is then converted into pounds of coal equivalent per person per year.

The graph which accompanies Table 6 shows the same kind of country comparisons as the graph on electricity. In brief, consumption rose several times faster in Israel, Taiwan, and South Korea than in Mexico, Brazil, Tunisia, India and Pakistan.

There are two exceptions on the four tables. Pakistan shows an unusually high rate of increase in manufacturing output and concomitantly a high rate of job creation. Venezuela shows an unusually high rate of increase on the two energy tables.

In the case of Pakistan, manufacturing based primarily on the urban market has been combined with heavy investment in two of the country's major export industries, cotton (West Pakistan) and jute (East Pakistan). Prior to partition in 1947 nearly all of the textile mills in the sub-continent were located in that part which is now India.

The processing of textile fibres prior to export has been an important part of Pakistan's industrial development for twenty years. In 1950 virtually all of Pakistan's cotton and jute exports were shipped out as raw material. By 1966 just under fifty per cent was exported as yarn or fabric. This rapid expansion of textile manufacturing in addition to production for the cities has raised Pakistan's level of output in manufacturing well above the level of most of the developing countries.

Venezuela's high use of energy is related to her two main export industries, oil and iron mining, and the unusually high per capita income (almost $1000 per year) generated by nature's abundance.

South Vietnam is not included on the table on manufacturing output because statistics are available only from 1962-1967. During this five year period the annual rate of increase averaged 14.2%. Such a high rate is not unusual for short periods of time in countries which have virtually no industry to start with.

TABLE 3. INCREASE IN MANUFACTURING OUTPUT 1953-1967

POLITICAL DEVELOPMENT COUNTRIES			Non-Political Development Countries		
COUNTRY	TOTAL INCREASE	AVERAGE ANNUAL RATE OF INCREASE	Country	Total Increase	Average Annual Rate of Increase
1. EGYPT [1]	731%	16.4%	1. Pakistan	626%	14.0%
2. JAPAN	607	13.8	2. Turkey	391	10.2
3. BULGARIA [1]	507	13.3	3. Venezuela	364	9.6
4. TAIWAN	574	13.3	4. Mexico	350	9.3
5. SOUTH KOREA [2]	300	13.0	5. Peru [1]	269	7.8
6. ROMANIA	497	12.1	6. Brazil [1]	267	7.8
7. YUGOSLAVIA	447	11.3	7. Philippines	284	7.7
8. PUERTO RICO [3]	305	9.7	8. Thailand	283	7.7
9. ISRAEL [1]	288	8.4	9. India	242	6.4
10. HUNGARY	258	6.9	10. Colombia [1]	207	6.2
			11. Cuba [4]	149	5.8
			12. Argentina [1]	187	4.9
			13. Chile	175	4.0
			14. Morocco [1]	147	3.0

Notes: 1/ 1953-1966

2/ 1958-1967

3/ 1953-1965

4/ 1958-1965. Includes mining, construction, and electricity as well as manufacturing.

TABLE 4. JOB CREATION AND POPULATION GROWTH, 1953-1966

A. AVERAGE ANNUAL RATE OF INCREASE IN TOTAL NON-AGRICULTURAL EMPLOYMENT

POLITICAL DEVELOPMENT COUNTRIES			Non-Political Development Countries		
COUNTRY	RATE OF INCREASE IN EMPLOYMENT 1953-1966	POPULATION GROWTH RATE 1963-66	Country	Rate of Increase in Employment 1953-66	Population Growth Rate 1963-66
1. BULGARIA 6/	5.9%	.7%	1. Turkey	4.0%	2.5%
2. TAIWAN 1/	5.8	2.3	2. Philippines	2.7	3.4
3. YUGOSLAVIA 6/	5.4	1.2			
4. PUERTO RICO	4.0	1.9			
5. JAPAN	3.8	1.0			
6. ISRAEL 2/	3.4	3.4			
7. POLAND 6/	3.2	1.1			
8. HUNGARY 6/	2.5	.3			

B. AVERAGE ANNUAL RATE OF INCREASE IN MANUFACTURING EMPLOYMENT ONLY

1. BULGARIA 2/ 6/	7.3%	.7%	1. Pakistan 3/	6.1%	ne
2. YUGOSLAVIA 6/	6.1	1.2	2. Turkey 2/	5.9	2.5%
3. ISRAEL 2/	6.0	3.4	3. West Malaysia 2/	4.8	2.9
4. TAIWAN 1/	5.7	2.3	4. Peru 4/	4.2	3.1
5. PUERTO RICO	5.2	1.9	5. India 2/ 7/	3.2	2.4
6. JAPAN	5.0	1.0	6. Venezuela 5/	3.0	3.1
7. ROMANIA 6/	4.1	.6	7. Colombia	2.5	3.2
8. POLAND 6/	3.3	1.1	8. Philippines	2.3	3.4
9. HUNGARY 6/	3.0	.3	9. Chile 2/ 7/	.1	2.1

Notes: 1. For Taiwan the figures from 1953 to 1963 are for manufacturing only; from 1964 to 1966 they cover total non-agricultural employment.

2. 1957-1966.

3. 1957-1964.

4. 1960-1966.

5. 1958-1966.

6. Includes mining as well as manufacturing.

7. Wage-earners only.

GRAPH 22. PRODUCTION OF ELECTRIC POWER

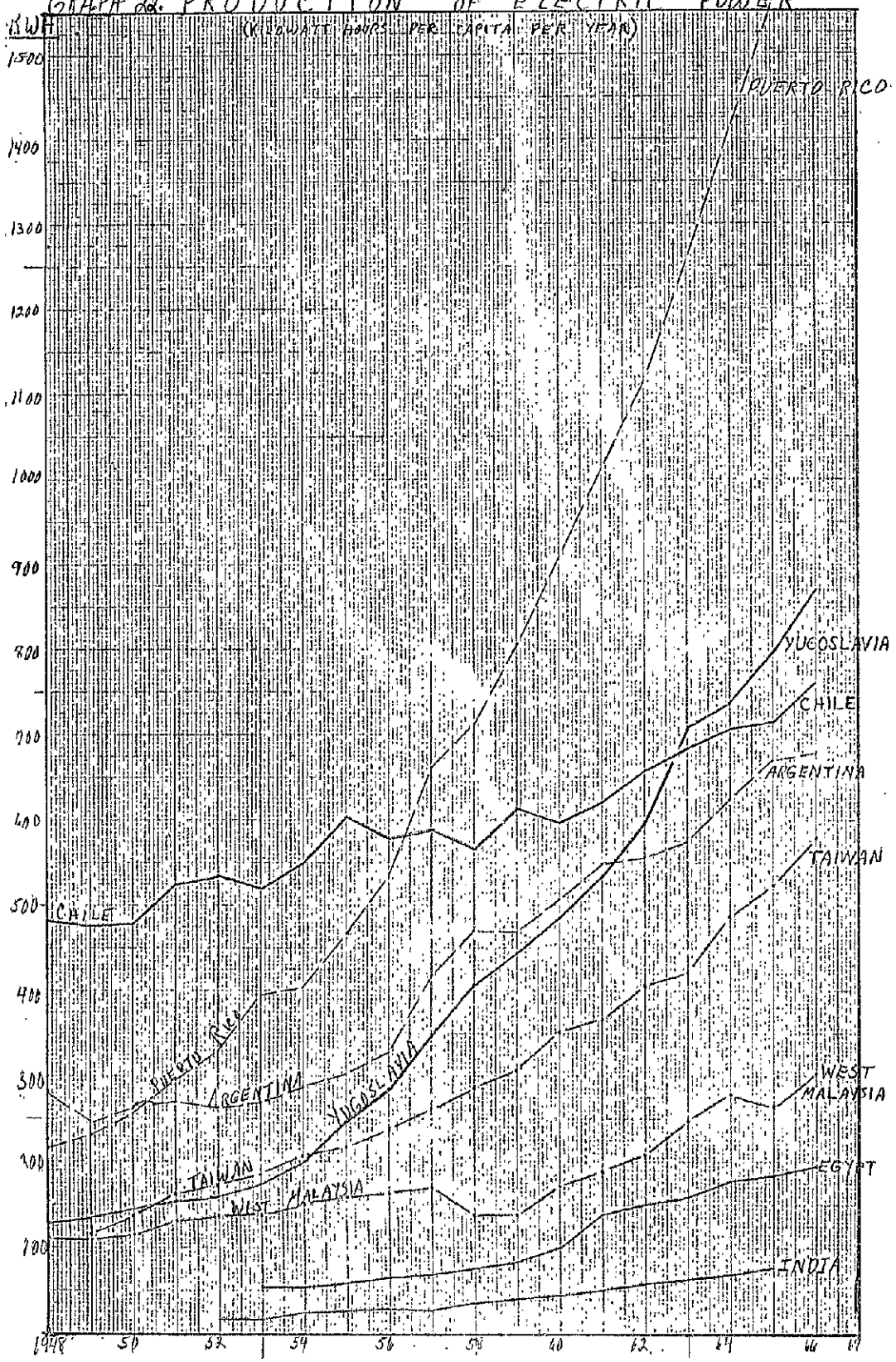


TABLE 5. INCREASE IN PRODUCTION OF ELECTRIC POWER, 1948-1966
(Kilowatt Hours Per Capita)

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	POWER PRODUCTION 1948 (kwh per capita)	1966	Increase	Country	Power Production 1948 (kwh per capita)	1966	Increase
Middle Income Countries							
1. PUERTO RICO	218	1773	1515	1. Venezuela	81	979	898
2. BULGARIA	77	1423	1346	2. Argentina	281	679	398
3. ISRAEL	364	1735	1371	3. Chile	484	761	277
4. POLAND	319	1495	1176	4. Mexico	162	431	269
5. ROMANIA	94	1087	993	5. Colombia	81	342	261
6. HUNGARY	243	1165	922	6. Brazil	138	393	255
7. YUGOSLAVIA	129	870	741	7. Peru	145 1/	340	195
				8. West Malaysia	112	304	192
				9. Cuba	395 2/	523	128
Low Income Countries							
1. TAIWAN	116 3/	579	463	1. Turkey	34	174	140
2. EGYPT	55 1/	196	141	2. Philippines	34	167	133
3. SOUTH KOREA	65 2/	144	79	3. Tunisia	35	129	94
				4. India	16	77 4/	61
				5. Morocco	44	104	60
				6. Thailand	3	58	55
				7. Pakistan	2	37	35
				8. South Vietnam	19 3/	36	17
				9. Indonesia	10 5/	14	4
Comparative Countries							
1. United States	2552	6339	3787				
2. USSR	568 6/	2335	1767				
3. Japan	542	2174	1632				

Notes: 1. 1953. 2. 1958. 3. 1949.
4. 1965. 5. 1955. 6. 1951.

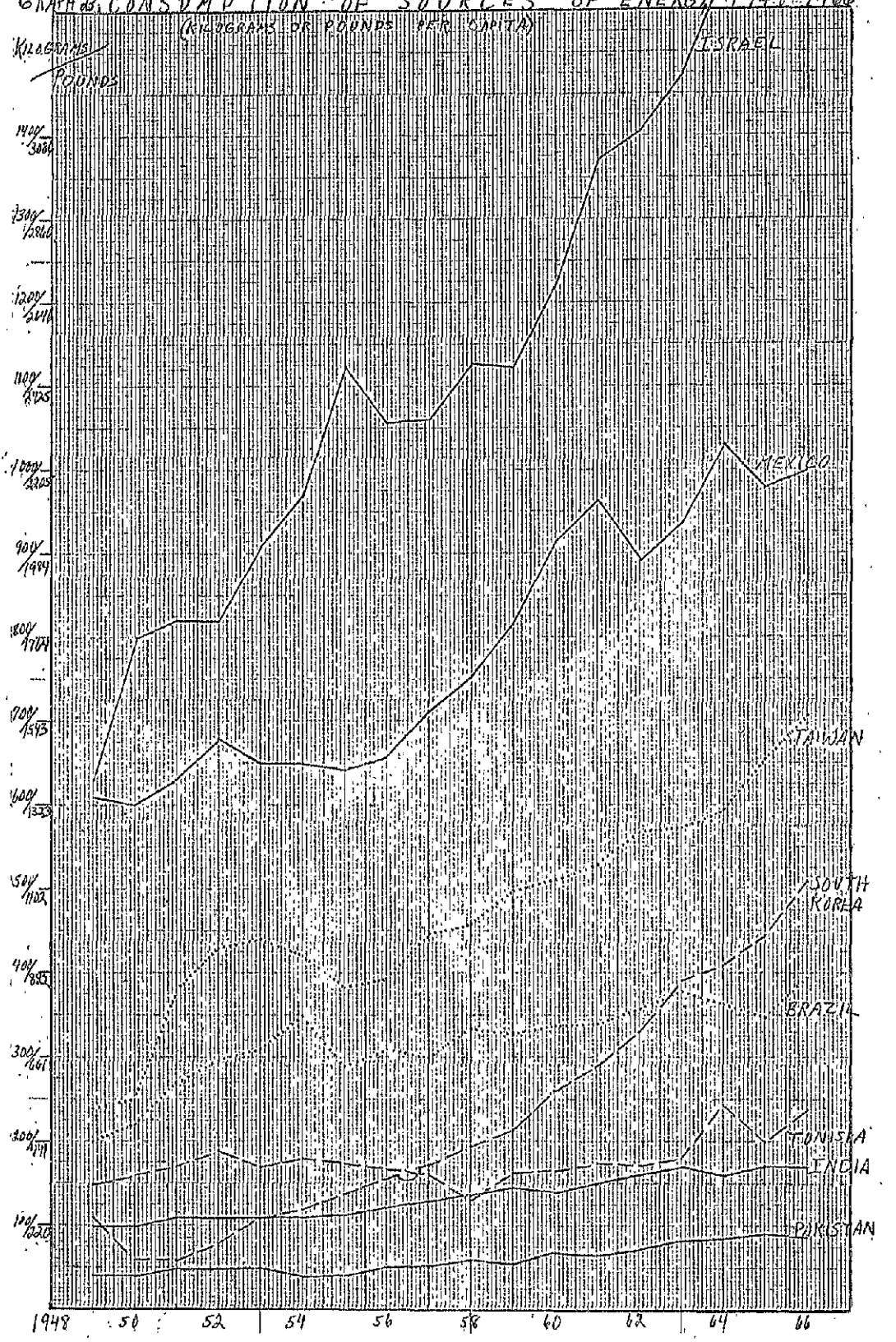
TABLE 6. INCREASE IN CONSUMPTION OF ENERGY, 1949-1966
(Pounds per capita of coal equivalent)

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	1949	1966	INCREASE	Country	1949	1966	Increase
Middle Income Countries							
1. BULGARIA	615	6010	5395	1. Venezuela	1410	6555 [1]	5145
2. PUERTO RICO	930	5095	4165	2. Argentina	1565	3040	1475
3. HUNGARY	2070	6230	4160	3. Peru	465	1380	915
4. POLAND	4275	7955	3680	4. Mexico	1345	2200	855
5. ROMANIA	925	4570	3645	5. Chile	1675	2455	780
6. ISRAEL	1390	4955	3565	6. Colombia	575	1175 [1]	600
7. YUGOSLAVIA	795	2650	1855	7. Brazil	440	860	420
				8. West Malaysia	530 [2]	880	350
				9. Cuba	2065 [3]	2155	90
Low Income Countries							
1. TAIWAN	530	1555	1025	1. Iran	465	895	430
2. SOUTH KOREA	430 [3]	1125	695	2. Philippines	175	455	280
3. EGYPT	465 [4]	690	225	3. Thailand	22	242 [5]	220
				4. Tunisia	330	525	195
				5. India	220	375	155
				6. South Vietnam	80 [6]	210	130
				7. Morocco	265	385	120
				8. Pakistan	90	190	100
				9. Indonesia	90	185	95
Comparative Countries							
1. UNITED STATES	15,255	21,155					
2. USSR	4,120	8,355					
3. JAPAN	1,585	4,310					

Notes: 1. 1965. 2. 1960. 3. 1958.
4. 1953. 5. 1965. 6. 1955.

GRAPH 23, CONSUMPTION OF SOURCES OF ENERGY, 1949-1966

(KILOGRAMS OR POUNDS PER CAPITA)



Section 3

Increase in National and Per Capita Income

The economic indicator which comes closest to summarizing all the others is national and per capita income. Table 7 below shows that the rate of increase in the "political development" countries averages substantially higher than in the "non-political development" countries. The significance of wide variations in growth rates for individual people is shown in the following table, which projects 1950-1966 growth rates through the year 2000. The countries are ranked according to projected income per capita, expressed in U.S. dollars, for the year 2000.

Country	Per Capita GDP 1950	Average Annual Growth Rate in Per Capita GDP 1950-1966	Per Capita GDP 1966	Projected Per Capita GDP 2000
JAPAN	$303	7.5%	$919	$10,745
YUGOSLAVIA	128[a]	6.9	372	3,590
TAIWAN	97	5.1	215	1,210
Mexico	313	2.1	484	1,200
Argentina	642	1.1	765	1,110
EGYPT	92[b]	3.9	165[c]	631
India	79[b]	1.4	97[c]	158

a. 1953-1966. b. 1950-1965. c. 1965.

Such projections are partly fancy, for the future does not repeat the past exactly. In the past several years, for example, Yugoslavia's income growth rate has declined somewhat below the 1953-66 average. On the other hand, Taiwan's growth rate is increasing. Japan probably cannot be expected to continue her spectacularly high growth rates when continued progress will depend more and more on the discovery of new knowledge and less on using knowledge learned in other countries.

Nevertheless, the projection dramatizes the enormous difference in material living conditions for the mass of ordinary people in the not too distant future that are inherent in the different kinds of development policies which countries are pursuing today. In 1950 Taiwan, Egypt, and India were among the poorest of the poor. By the year 2000 Taiwan and Egypt should have achieved reasonably comfortable standards of living. By contrast, unless there is a radical increase in the rate of growth, it may take India another half a century or more.

to reach the living standard achieved by Taiwan between 1950 and 1966. To cite another example, in 1950 per capita incomes in Mexico and Japan were about the same. Today, income in Japan is twice as high as in Mexico. If present trends continue, by the year 2000 per capita income in Japan could be eight or ten times higher than in Mexico.

The possible difference in the future in material living conditions between the successful and the unsuccessful countries may actually be somewhat greater than the statistics indicate because declining population growth in the "political development" countries means that the annual increase in production will be distributed among relatively fewer people* in the future.

It is to be expected that the differences in economic growth rates are explained in part by differences in the level of investment. Generally speaking, the "political development" countries have been able to achieve and sustain higher rates of investment than the "non-political development" countries. But it is also true that the efficiency of any given investment rate is influenced by the factors discussed in Part I above and the various sections of Part II. Thus, during the decade of the 1960s the rate of investment in Taiwan, Argentina, Thailand, Venezuela, Colombia, West Malaysia and Peru has averaged around 20% per year. But the average increase in gross domestic product (GDP) ranges from only 2.8% in Argentina to 10% in Taiwan.

Table 7 below shows the average annual rate of increase in gross domestic product, or GDP (which is the most common method of measuring income), and per capita GDP for the years 1950 through 1966. It also shows the number of years needed to double and quadruple per capita GDP at 1950-66 growth rates. These two columns can be taken as a measure of the speed with which the developing countries are rising above the life of brute necessity.

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* See Section 5.

Table 7. Average Annual Rate of Increase in Gross and Per Capita Domestic Product, 1950-1966

POLITICAL DEVELOPMENT COUNTRIES

COUNTRY	% INCREASE IN GDP PER YEAR TOTAL	PER CAPITA	NO. OF YEARS AT 1950-1966 GROWTH RATES NEEDED TO: DOUBLE PER CAPITA GDP	QUADRUPLE PER CAPITA GDP
1. ROMANIA		8.8 %	9 years	17 years
2. JAPAN 1/	9.4	7.5	10	19
3. BULGARIA	8.2	7.2	10	20
4. YUGOSLAVIA	8.2	6.9	11	21
5. PUERTO RICO	6.9	5.7	13	25
6. ISRAEL 1/	10.7	5.7	13	25
7. POLAND	7.1	5.6	13	26
8. TAIWAN	8.7	5.1	14	28
9. HUNGARY 2/	5.6	5.1	14	28
10. SOUTH KOREA	7.5	4.6	16	31
11. EGYPT 3/ 4/	6.6	3.9	16	31

Non-Political Development Countries

Country	% Increase in GDP Per Year Gross	Per Capita	No. of Years at 1950-66 Growth Rates Needed to: Double Per Capita GDP	Quadruple Per Capita GDP
1. Thailand 5/	6.6%	3.5%	21	41
2. Peru 6/	5.7	3.1	23	45
3. Turkey 3/ 4/	6.0	3.0	24	47
4. Iran	5.5	2.9	24	48
5. Venezuela	6.8	2.9	24	48
6. Mexico 7/	6.1	2.7	26	52
7. Tunisia 3/ 4/	4.3	2.3		
8. South Vietnam 8/	5.1	2.2	32	64
9. Brazil	5.2	2.1	33	67
10. West Malaysia	5.3	2.1	33	67
11. Philippines	5.2	2.0	35	71
12. Chile	4.1	1.8	39	78
13. Pakistan	3.7	1.5	47	94
14. India	3.4	1.4	50	99
15. Colombia 7/	4.5	1.3	More than 50	More than 100
16. Argentina	3.0	1.1	" " "	" " "
17. Cuba 9/	1.5	-.5	-	-
18. Indonesia 10/	1.7	-.6	-	-
19. Morocco 1/	1.9	-.6	-	-

General Note: The figures for the non-Communist countries represent average annual rates of growth of real gross domestic product at factor cost, except for Japan, Puerto Rico, Israel, Taiwan, and South Vietnam which are calculated on the basis of constant market prices. Egypt and the Philippines are net product rather than gross. The method of national income accounting used in the communist countries is called net material product (NMP).
1. 1952-1965. 2. 1960-1966. 3. Estimate of OECD (successor to the Marshall Plan Organization in Western Europe. The OECD estimates are used whenever they cover a longer time span than the UN estimates). 4. 1955-1965. 5. 1951-1965.
6. 1950-1964. 7. 1950-1965. 8. 1960-1965. 9. 1962-1966. 10. 1958-1966.

Section 4

The Capacity to Compete

If the poor countries are to attain what economists sometimes call the "capacity for self-sustained economic growth", then they must acquire the ability to pay their own way in the international community. The tables below show that the countries which are becoming "self-sustaining" are the "political development" countries. On the other hand, the capacity of some of the "non-political development" countries to pay their own way has actually declined in the past fifteen years.

The export record presented in the tables below also supports the hypothesis expressed in Section 2 on Industrialization, namely that an agricultural revolution on two and a half acre farms may be the fastest way to industrialize subsistence economics. It is the countries with rapidly rising agricultural productivity, high rates of industrialization, and strong local organizations, i.e., the "political development" countries, that have proved able to raise exports substantially.

The export success of the "political development" countries is shown by two factors. First, they have succeeded in raising the export of both agricultural and non-agricultural products through diversification of cropping patterns on the farm and rapid expansion of manufacturing output in the cities. Second, a large and rapidly increasing proportion of their exports are shipped as finished products with a relatively high unit value rather than as raw materials or semi-processed products, such as petroleum products or refined minerals, which have a relatively low unit value. Only those countries which are rich in oil, such as Iran and Venezuela, or in minerals, such as Chile, have succeeded in increasing exports without either diversification or industrialization.

Table 8 shows exports in total and per capita. The two generalizations expressed above are then examined in Tables 9 and 10. Also explained is the relatively unprofitable way in which the six "non-political development" countries described earlier as the "export exceptions" - West Malaysia, Mexico, Morocco, Peru, the Philippines, and Thailand - have succeeded in raising their export earnings. The tables in the main body of the study include six pairs of countries, Taiwan and Brazil, South Korea and India, Israel and Argentine, Yugoslavia and Cuba, West Malaysia and Colombia, and Mexico and Turkey. The remainder of the countries are presented in the Export Appendix.

Section II, A-1, Agriculture

A Technical Note on the Tables

The data in the three tables which follow is taken from the United Nations "Yearbook of International Trade Statistics". National currencies were converted into United States dollars according to the UN "conversion factors". For technical reasons these factors are not always the same as official exchange rates.

The distinction between "traditional" and "non-traditional" exports is based on the identification of the major export commodities of each country in the late 1940s and early 1950s. As will be seen on Table 9, these commodities usually amounted to 80 or 90% of total export earnings at the beginning of the period. All other commodities are defined as "non-traditional" exports.

The Standard International Trade Classification (SITC) used by the UN is so arranged that processed and manufactured products can be distinguished from raw materials for almost, but not quite, all products traded. Like other statistics in this study, the figures for processed and unprocessed exports should be considered approximations.

The SITC was adopted by the UN in 1950, but many member countries did not begin using it immediately and several still have not adopted it, for example, Chile. If a country adopted the code prior to 1955 I have used the year of adoption as the first year on the tables. If the SITC was not adopted until after 1955 I have transposed the available data into the code for the year 1950. However, I have used 1958 for Cuba because this was the last year of the pre-Castro government, for West Malaysia because this is the first year in which the statistics for Singapore and Malaya are presented separately, and for South Korea because this was the last year preceding her spectacular increase in exports.

South Vietnam is excluded because the war began disrupting the economy seriously in 1964. During the preceding decade Vietnam's exports consisted mostly of rice and rubber. Up until that year, there was little progress in either diversification or processing of exports.

Exports, Total and Per Capita

Table 8 shows exports in total and per capita. The reader will note that Taiwan has increased the total value of her exports by substantially more than India during the past fifteen years, even though India has 40 times as many people, 180 times as much arable land, and considerable natural resources. The small and medium-sized countries of Israel, Yugoslavia, West Malaysia, and Mexico have also increased their exports more than India.

On a per capita basis, exports from Taiwan have quadrupled, from $10.66 in 1954 to $41.29 in 1966. Yugoslavia has increased exports per capita six times, Israel seven times, and South Korea eleven times by 1966 and 20 times by 1968. By contrast, per capita exports from India have actually declined from a low level of $3.39 in 1950 to $3.11 in 1966. Per capita exports have also declined in Brazil, Colombia, and Cuba.

The phenomenal rise in South Korea's exports is one of the "economic miracles" of present times. The table ends with the year 1966 when South Korea's exports were $234 million as compared to only $16 million in 1958. In just the past two years her exports have doubled to almost $500 million. Thus, if statistics were available for all countries for 1967 and 1968, the difference between South Korea and India would be double the difference actually shown on the tables. During these two years there has been no such significant change in Indian exports.

The explanation of these wide variations in export earnings is to be found in the performance of the domestic economy, the discussion of which will be continued following the presentation of the totals.

TABLE 8. EXPORTS, TOTAL AND PER CAPITA, EARLY 1950s-1966

	TAIWAN			SOUTH KOREA			ISRAEL		
	1954	1966	Change	1958	1966	Change	1950	1966	Change
Total Exports (U.S. $ million)	93	534	443	16	250	234	35	503	468
Per Capita (U.S. $)	10.66	41.29	30.63	.71	8.60	7.91	27.93	191.43	163.50

	Brazil			India			Argentina		
	1953	1966	Change	1950	1966	Change	1950	1966	Change
Total Exports (U.S. $ million)	1,539	1,741	202	1,126	1,553	337	1,178	1,593	415
Per Capita (U.S. $)	26.90	20.94	5.96	3.39	3.11	-.28	69.01	70.21	1.20

	West Malaysia			Mexico			YUGOSLAVIA		
	1958	1966	Change	1950	1966	Change	1953	1966	Change
Total Export (U.S. $ million)	609	1,019	410	468	1,227	759	186	1,220	1,034
Per Capita (U.S. $)	94.75	122.80	28.05	17.84	27.83	9.99	10.91	61.82	50.91

	Colombia			Turkey			Cuba		
	1951	1966	Change	1951	1966	Change	1958	1966	Change
Total Exports (U.S. $ million)	463	507	44	314	490	176	734	686	-48
Per Capita (U.S. $)	39.89	27.30	-12.59	14.52	15.37	.85	112.02	89.84	-22.18

EXPORTS AS A MEASURE OF DIVERSIFICATION OF ECONOMIC ACTIVITY

One characteristic of rapid progress in development is diversification of cropping patterns in agriculture and the production of an ever increasing number and variety of the manufactured products which a modern economy requires. The countries with a record of rising exports are those making rapid progress in both agriculture and industrial diversification that is, the "political development" countries. The "export exception" countries have made some progress in agricultural diversification, less in industrial diversification.

Traditionally the developing countries have been exporters of a small group of "primary" products, - oil, mineral oils and certain agricultural commodities. Nearly all of these have a low unit value in comparison to the type of manufactured products exported by countries such as the United States or Japan. The agriculture crops consist primarily of the three major foodgrains, rice, wheat, and corn; three major beverages, coffee, tea, and cocoa; cotton, jute and jute-like fibres; tobacco and sugar; certain spices from tropical countries; and certain of the vegetable nuts and oils made therefrom, especially cottonseed, coconuts and palm nuts. For a small number of countries animals (Argentina and Yugoslavia), wood (Yugoslavia), citrus fruits (Israel and Morocco) and fish (Morocco and Mexico) can be considered "traditional" exports.

Table 9 represents an effort to assess the relationship between a country's success in diversification and its ability to pay its own way. In the "political development" countries the value of "traditional" exports as a proportion of total exports is declining rapidly. In the "non-political development" countries the value of "traditional" exports continues to be a high proportion of total exports. Thus, in Taiwan, traditional exports were 86% of the total in 1954, but only 28 of the total in 1966.

In South Korea "traditional" exports declined from 66% to 29% of total exports between 1958 and 1966. This decrease in the proportionate value of "traditional" exports is true even in several "political development" countries in which the absolute value of "traditional" exports has multiplied several times. Thus, in Israel "traditional" exports rose from $21.92 in 1950 to $94.80 in 1966, but the proportion of "traditional" to total exports declined from 61% to 21%. Similarly, the value of "traditional" exports per capita in Yugoslavia was increased four times between 1953 and 1966, but the proportionate share declined from 76% to 45%.

By contrast, "traditional" exports in India in 1966 were still 84% as compared to 95% in 1950. In Argentina the proportion of "traditional" to total exports actually increased from 84% to 90%. In Turkey the "traditional" category declined from 73% to 65%.

The capacity to increase the export of "non-traditional" products is not, however, the explanation of rising exports in the "export exception" countries, even though four of them, West Malaysia, Mexico, Peru, and Thailand, have succeeded in increasing this category substantially. These countries have increased their foreign exchange earnings primarily by increasing

the export of relatively low unit value oil and mineral ores and the type of agricultural commodities listed above as "traditional".

Thus, Mexico, in 1950, exported cotton and other fibres, coffee, fish and mineral ores. By 1966 earnings from these commodities had doubled and corn, wheat, live animals and some meat and fruits and vegetables, mostly fresh, had been added to the list. Thailand has increased her traditional exports of rice and tin and added corn and jute. West Malaysia has increased her traditional exports of rubber, tin and vegetable nut oils and added fish, logs and some fresh fruits and vegetables. Of these, only fruit and vegetables are a high unit value product. Thus, in these three countries, (and the same is true in Morocco, Peru, and the Philippines) the change in composition of exports tends to be toward relatively low-unit value products.

By contrast, the change in the composition of exports in the "political development" countries is toward high unit value products. For example, Taiwan, in the agricultural sector, now earns more than $200 million annually from bananas, pineapples, asparagus, mushrooms, wood and paper as compared to less than $10 million in 1954. Further, most of these commodities are not exported as fresh or raw materials but as processed or manufactured products. The "value added by manufacture" is retained in Taiwan rather than transferred to the importing country. In the non-agricultural sector, Taiwan is now exporting textile machinery as well as textiles, electric machinery and equipment, fertilizer and plastics. This same type of change in the composition of exports toward high unit value products is found in the other "political development" countries (except in Egypt, where it is just beginning).

Thus, the "non-political-development" countries continue to rely on relatively low value primary products, and also foreign aid, to finance the imports needed for development. The "political development" countries are acquiring the ability to pay their own way in the international community.

In Table 9 agricultural exports are divided between the "traditional" commodities listed above and "non-traditional". Non-agricultural exports are divided between oil and mineral ores and "all other". The non-traditional agricultural exports and "all other" figures are added together on the next to the last line of the table. This figure is a measure of a country's capacity to produce new products for both domestic consumption and export. The reader will note that the figures for the "political development" countries are higher than for the "non-political development" countries. Similarly, the amount of increase between the early 1950s until 1966 is much higher in the "political development" countries. The last line of the table shows the "diversification" amount as a percentage of total exports. Except for Egypt, this figure is now higher than 50% in all of the "political development" countries and much higher than in the "non-political development" countries. Again, the amount of improvement in the past decade and a half is very much higher in the "political development" countries.

TABLE 9. EXPORTS AS A MEASURE OF DIVERSIFICATION OF ECONOMIC ACTIVITY, EARLY 1950s-1966
U.S. $ Per Capita

	TAIWAN			SOUTH KOREA			Mexico		
	1954	1966	Change	1958	1966	Change	1950	1966	Change
Agricultural Exports	9.71	29.40	19.69	.14	2.38	2.24	10.38	18.21	7.83
Traditional	8.22	7.27	-.95	.12	1.00	.88	8.18	9.52	1.34
Non-Traditional	1.49	22.13	20.64	.02	1.38	1.36	2.20	8.69	6 49
Non-Agricultural Exports	.31	11.89	11.58	.54	6.22	5.68	7.43	9.59	2.16
Oil and Mineral Ores	.31	4.41	4.10	.32	1.47	1.15	6.89	6.67	-.27
All Other	0	7.48	7.48	.22	4.75	4.53	.54	2.92	2.38
Sum of "Non-Traditional" and "All Other"	1.49	29.61	28.12	.24	6.13	5.89	2.74	11.61	8 87
"Sum" Amount as a % of Total Exports	14.0 %	71.7 %	27.7 %	33.8 %	71.2 %	37.4 %	15.4 %	41.7 %	25.3 %

	Brazil			India			Turkey		
	1950	1966	Change	1958	1966	Change	1951	1966	Change
Agricultural Exports	25.98	18.08	-7.90	2.98	2.44	-.54	12.78	13.51	.73
Traditional	23.18	12.84	-10.34	2.81	2.09	-.72	9.06	8.37	.69
Non-Traditional	2.80	5.24	2.44	.17	.35	.18	3.72	5.14	1.42
Non-Agricultural Exports	.87	2.81	1.94	.13	.66	.53	1.74	1.86	.12
Oil and Mineral Ores	.71	2.00	1.29	.13	.52	.39	1.56	1.65	.09
All Other	.16	.81	.65	0	.14	.14	.13	.21	.03
Sum of "Non-Traditional" and "All Other"	2.96	6.05	3.09	.17	.49	.32	3.90	5.35	1.45
"Sum" Amount as a % of Total Exports	11.0 %	28.9 %	17.9 %	5.0 %	15.8 %	10.8 %	26.9 %	34.8 %	7.9 %

TABLE 9 (Cont'd) EXPORTS AS A MEASURE OF DIVERSIFICATION OF ECONOMIC ACTIVITY, EARLY 1950s-1966
U.S. $ Per Capita

	ISRAEL			YUGOSLAVIA			WEST MALAYSIA		
	1950	1966	Change	1953	1966	Change	1958	1966	Change
Agricultural Exports	15.05	49.45	34.40	6.73	25.17	18.44	70.52	69.93	-.59
Traditional	14.91	22.71	7.80	5.02	19.63	14.61	63.91	59.52	-4.39
Non-Traditional	.14	26.74	26.60	1.71	5.54	3.83	6.61	10.41	3.80
Non-Agricultural Exports	10.86	140.32	129.46	4.06	36.62	32.56	23.18	51.51	28.33
Oil and Mineral Ores	.11	16.33	16.22	2.89	8.45	5.56	18.37	40.93	22.56
All Other	10.75	123.99	113.24	1.17	28.17	27.00	4.81	10.58	5.77
Sum of "Non-Traditional" and "All Other"	10.89	150.73	139.84	2.88	33.71	30.83	11.42	20.99	9 57
"Sum" Amount as a % of Total Exports	39.0 %	78.7 %	39.7 %	26.4 %	54.5 %	28.1 %	12.1 %	17.1 %	5.0 %

	Argentina			Cuba			Colombia		
	1950	1966	Change	1958	1966	Change	1951	1966	Change
Agricultural Exports	64.01	65.45	1.44	98.75	83.04	-15.71	33.23	21.28	-11.94
Traditional	56.58	62.02	5.44	97.99	82.22	-15.77	30.98	17.66	-13.32
Non-Traditional	7.43	3.43	-4.00	.66	.82	.06	2.25	3.62	1 37
Non-Agricultural Exports	4.93	4.74	-.19	4.33	6.80	2.47	6.62	6.01	-.61
Oil and Mineral Ores	.18	1.08	.90	4.24	5.22	- 1.02	6.41	4.73	- 1.68
All Other	4.75	3.66	-1.09	.09	3.58	3.49	.21	1.28	1.07
Sum of "Non-Traditional" and "All Other"	12.18	7.09	-5.09	.75	4.40	3.55	2.46	4.90	2.44
"Sum" Amount as a % of Total Exports	17.6 %	10.1 %	-7.5 %	.7 %	4.9 %	4.2 %	6.2 %	17.9 %	13.7 %

EXPORTS AS A MEASURE OF INDUSTRIAL PROGRESS

A second characteristic of rapid progress in development is the ability of a country to become competitive in the world of modern machines. Table 10 is a measure of the developing countries' "capacity to compete".

The first line of the table shows the per capita value of all non-agricultural processed and manufactured exports except for the refining of oil and mineral ores. The value added by refining is a relatively small proportion of the value of the basic raw materials when compared to the value added to iron ore in the course of transforming it into a bicycle or an engine. In addition, and more importantly, none of the poor countries that is a major exporter of oil or mineral oils has yet succeeded in developing a diversified industrial economy or in intergrating industrial and aggricultural development. Hence, refining, even if it is increasing rapidly, which it is in Venezuela, Iran, Chile, West Malaysia, and Thailand, does not appear to be a good indicator of progress.

The second line on Table 10 is a measure of the integration of industrial and agricultural development through "agro-industries".* The importance of agro-industries can be illustrated by a comparison of Taiwan and Thailand.

In 1966 the value of Taiwan's processed agricultural exports was $13.69 per capita, or $175 million in total. In the same year Thailand's processed agricultural exports were only 57¢ per capita, or $18 million in total. If Thailand had been able to export processed agricultural products on the same per capita basis as Taiwan, exports would have increased by $400 million. The value of manufacturing output and the number of factory jobs would have been 75% higher than they actually were, and per capita GDP would have been raised by almost 10%. These figures leave out of account the value of processed agricultural products that would have been consumed in Thailand!

The sum of the first two lines of Table 10 is thus a measure of a country's capacity to learn how to use machinery to process or fabricate raw materials with enough efficiency to meet the price and quality competition of other exporting countries. In 1966 Taiwan's per capita exports of processed and manufactured products was $25.58. Yugoslavia's was $45.88, South Korea's was $5.04, but by the end of 1968 it was around $10.00. By contrast India's export of processed and manufactured products was $1.47 per capita, Brazil's was $3.16, Turkey's was $2.37. Argentina's seems high at $28.15. However, this was only 80¢ higher than in 1950, an increase of just 3%. By

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* See Section 2 above

contrast, the increase in the "political development" countries varied from four times in Taiwan to nine times in Yugoslavia, eleven times in Israel, and fifty times in South Korea. However, during the same period, the capacity to compete of India, Turkey, and Cuba actually declined.

The second aspect of the capacity to compete can be assessed by examining the distribution of exports between processed and unprocessed. This is shown on the last two lines of the table, in which refined oil and mineral ores are considered to be "unprocessed" for the reasons mentioned earlier.

As a country progresses, the proportion of processed exports should increase rapidly and, at some point, become more than one half of the total. In the first year shown on the table unprocessed exports exceeded processed exports in Israel, Yugoslavia, and South Korea. Today processed exports are much the larger proportion of total exports in all the "political development" countries (again, excepting Egypt). In the "non-political development" countries, however, the lion's share of exports continues to be unprocessed products. This is true of the "export exception" countries as well as the other "non-political development" countries and is the principal reason their method of increasing export earnings was earlier described as "relatively unprofitable". Interestingly, the "political development" countries have not only increased the volume of processed exports much more and much faster than the "non-political development" countries. They have also increased unprocessed exports much more and much faster than most of the "non-political development" countries.

Thus, the change in the composition of exports shown in the previous table and the high and increasing proportion of processed exports shown on the table below suggest that "political development" is, indeed, the route to economic self-respect -- and an end to "foreign aid".

TABLE 10 (Cont'd) EXPORTS AS A MEASURE OF INDUSTRIAL PROGRESS, EARLY 1950s-1966
U.S. $ Per Capita

	ISRAEL			YUGOSLAVIA			West Malaysia		
	1950	1966	Change	1953	1966	Change	1958	1966	Change
Processed Non-Agricultural Products Less Refining	10.75	123.89	113.14	1.31	27.63	26.32	2.31	6.45	4 14.
Processed Agricultural Products	1.69	15.86	14.17	3.67	18.25	14.58	5.91	9.18	3.27
Total Processed Exports (Other than Refining)	12.44	139.75	127.31	4.98	45.88	40 90	8.22	15.63	7.41
Unprocessed Exports (Including Refining)	15.49	51.68	36.19	5.93	15.94	10.01	86.53	107.17	20.64
"Processed" as a % of Total Exports	44.5%	73.0%	28.5%	45.6%	74.2%	28.6%	8.7%	12.7%	4.0%
	Argentina			Cuba			Colombia		
	1950	1966	Change	1958	1966	Change	1951	1966	Change
Processed Non-Agricultural Products Less Refining	4.57	1.80	-2.77	1.55	3.52	1.97	.19	1.58	1.39
Processed Agricultural Products	22.78	26.35	3.57	16.59	11.82	-4.77	.80	1.22	.42
Total Processed Exports (Other than Refining)	27.35	28.15	.80	18.14	15.34	-2.80	.99	2 80	1.81
Unprocessed Exports (Including Refining)	41.59	42.06	.57	93.88	74.50	-19.38	38.90	24.50	-14.40
"Processed" as a % of Total Exports	39.7%	40.1%	.4%	16.2%	17.1%	.9%	2.5%	10.3%	7.8%

TABLE 10. EXPORTS AS A MEASURE OF INDUSTRIAL PROGRESS, EARLY 1950s-1966
U.S. $ per capita

	TAIWAN			SOUTH KOREA			MEXICO		
	1954	1966	Change	1958	1966	Change	1950	1966	Change
Processed Non-Agricultural Products Less Refining	0	11.89	11.89	.08	4.71	4.63	.54	2.78	2.24
Processed Agricultural Products	6.86	13.69	6.83	.01	.33	.32	1.59	3.33	1.74
Total Processed Exports (Other than Refining)	6.86	25.58	18.72	.09	5.04	4.95	2.13	6.11	3.98
Unprocessed Exports (Including Refining)	3.80	15.69	11.89	.62	3.57	2.95	15.71	21 69	5.98
"Processed" as a % of Total Exports	1/	1/	1/	12.7%	58.5%	45.8%	11.9%	22.0%	10.1%

	Brazil			India			Turkey		
	1953	1966	Change	1950	1966	Change	1951	1966	Change
Processed Non-Agricultural Products Less Refining	.15	.85	.70	0	.14	.14	.18	.17	-.01
Processed Agricultural Products	1.67	2.31	.64	1.83	1.33	-.50	2.48	2.20	-.28
Total Processed Exports (Other than Refining)	1.82	3:16	1.34	1.83	1.47	-.36	2,66	2,37	- 29
Unprocessed Exports (Including Refining)	25.08	17.78	-7.30	1.56	1.64	.08	11.86	13,00	1.14
"Processed" as a % of Total Exports	6.8%	15.1%	8.3%	54.0%	47.3%	-6.7%	18.3%	15.4%	-2.9%

1. See footnote on Table 11.

TABLE 11. SUMMARY OF "DIVERSIFICATION" INDICATOR
(Diversification Amount from Table 9 as a % of Total Exports)

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
DIVERSIFICATION PERCENTAGE				Diversification Percentage			
COUNTRY	1st Year	1966	Increase	Country	1st Year	1966	Increase
Middle Income Countries				**A. Oil, Mineral Ores and Rubber Countries**			
1. ISRAEL	39.0	78.7	39.7	1. West Malaysia	12.1	17.1	5.0
2. YUGOSLAVIA	26.4	54.5	28.1	2. Chile	.3	1.6	1.3
				3. Venezuela	.0	1.2	1.2
				B. Other Middle Income Countries			
				1. Peru	.6	29.8	29.2
				2. Mexico	15.4	41.7	26.3
				3. Brazil	11.0	28.9	17.9
				4. Colombia	6.2	17.9	13.7
				5. Cuba	.7	4.9	4.2
				6. Argentina	17.6	10.9	-7.5
Low Income Countries							
1. TAIWAN	14.0	71.7	57.7	1. Tunisia	3.9	34.0	30.1
2. SOUTH KOREA	33.8	71.2	37.4	2. Thailand	19.3	42.1	22.8
3. EGYPT	11.2	21.0	9.8	3. Pakistan	.9	18.2	17.3
				4. India	5.0	15.8	10.8
				5. Turkey	26.9	34.8	7.9
				6. Morocco	12.1	18.9	6.8
				7. Philippines	10.9	15.3	4.4
				8. South Vietnam	1.0	4.6	3.6
				9. Indonesia	5.9	3.3	-2.6

TABLE 12. SUMMARY OF "INDUSTRIAL PROGRESS" INDICATOR
("Industrial Progress" Amount from Table 10 as a % of Total Exports)

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
INDUSTRIAL PROGRESS PERCENTAGE				Industrial Progress Percentage			
COUNTRY	1st Year	1966	CHANGE	Country	1st Year	1966	Change
Middle Income Countries							
				A. Oil, Mineral Ores and Rubber Countrie			
1. ISRAEL	44.5	73.0	28.5	1. West Malaysia	8.7	12.7	4.0
2. YUGOSLAVIA	45.6	74.2	28.6	2. Venezuela	0	.9	.9
				3. Chile	2.8	2.4	-.4
				B. Other Middle Income Countries			
				1. Peru	0	22.2	22.2
				2. Mexico	11.9	22.0	10.1
				3. Brazil	6.8	15.1	8.3
				4. Colombia	2.5	10.3	7.8
				5. Argentina	39.6	40.1	.5
				6. Cuba	16.2	17.1	.9
Low Income Countries							
1. TAIWAN*	4.1	51.7	47.6	1. Pakistan	1.1	53.8	52.7
2. SOUTH KOREA	12.7	58.5	45.8	2. Philippines	14.3	24.6	10.3
3. EGYPT	7.2	31.0	23.8	3. Tunisia	35.7	45.0	9.3
				4. South Vietnam	1.7	8.8	7.7
				5. Morocco	21.0	27.2	6.2
				6. Indonesia	4.6	4.3	-0.3
				7. Turkey	18.3	15.4	-2.9
				8. Thailand	9.5	5.3	-4.2
				9. India	54.0	47.3	-6.7

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* The calculation for Taiwan excludes refined sugar in order to give a more accurate measure of the increase in processed exports. Refined sugar was such a large proportion of Taiwan's total exports in 1954 - 60.3% - that including it gives the impression there was no progress during the twelve year period. By 1966 refined sugar had declined to only 10.2% of total exports. The value of processed exports other than sugar was $275 million as compared to only $4 million in 1954.

B - SOCIAL INDICATORS

Section 5

Political Development and the Population Problem

Political development is not only the route to high rates of economic growth. It is also the way to reduce the population problem to manageable proportions.* By the combination of increasing production and declining population growth rates, political development can end the spectre of world-wide famine. It can also end the fear that economic gains will be swallowed up by the "population explosion". The problem of poupulation control lies in the incentives for voluntary limitation in family size.

The problem in the poor and politically undeveloped countries is that the death rate has been reduced without a parallel reduction in birth rates. The Death rate has been reduced from 30 or more per thousand living people (usually written as 30 per 1000) to less than 20 per 1000 in nearly all of them and to as low as 10 per 1000 in some of them. Through famine relief and modern techniques of epidemic disease control central governments are able to prevent, or at least, mitiagate the effects of catastrophe. That is, the death rate can be reduced by programs which can be reduced by programs which can be carried out without altering the organization of a subsistence society and which do not require the voluntary participation of people en masse over an extended period of time. But family limitation is a matter of individual persuasion and privacy, one of the aspects of the life of subsistence which lies beyond the reach of government officials.

"The effective control of fertility requires individual initiative and sustained effort. People who do not really believe that it is possible for them to improve conditions of life for themselves or their children will not undertake a radically new venture or put forth the sustained effort for success in this undertaking. Where hope is weak, contraception will be absent or ineffective."**

This quotation assumes that the "classical population curve" is still a valid explanation of trends in birth rates. The concept of the "curve" was developed as an explanation of what appeared to be a paradox in the Western countries a century ago. At the very same time that rising incomes made it easier for parents to afford the very large families that were traditional, birth rates began to fall. Because they declined, and substantially, the Western countries have been spared what is today often called the "population explosion".

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* I have intentionally omitted the statistics on population growth since there is a constant flood of literature on the problem as well as numerous newspaper and magazine articles. Suffice it to say that when America was first being settled the number of years required for the world's population to double was 200. Today the world's population is doubling every 35 years, and the time required for doubling is still lessening. If this trend continues the population of the world, which is now approaching 4 billion, will exceed 50 billion by the year 2100.

** Frank Lorimer in "The Population Dilemma", published by the American Assembly, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1965, pp. 148-149

In England and Wales, for example, the birth rate began to fall around 1880. Throughout the 19th century, the birth rate was around 35 per 1000. In 1880 the death rate was 21 per 1000, a difference of 14 per 1000, or a population growth rate of 1.4% per year. By 1914 the death rate had been reduced further to 14 per 1000. But the birth rate had fallen to 24 per 1000 - a growth rate of 1% per year. Thus, the birth rate declined even more rapidly than the death rate!

The pattern in the United States and other Western countries is similar to the pattern in Britain, and the time period of the decline in birth rates is approximately the same - it began in the last third of the 19th century.* This simultaneous decline of birth and death rates, with a resulting modest increase in annual population growth rates, is the statistical representation of the "classical population curve".

In the West European democracies parents began to limit the size of their families as they began to compare the costs of additional children with the cost of new opportunities that were being created for people en masse - universal education, decent housing, better medical care, leisure time activities, perhaps most important of all, the possibility of upward mobility in the social structure. In addition, because of the general improvement in environmental sanitation and health standards, it was no longer necessary to have ten babies in the hope of having five young adults.

Thus, in Britain and the other West European democracies, the decline in the birth rate began during their period of political development - the transformation of these once feudalistic societies into societies that were democratic and were becoming economically affluent. The detailed statistics show that those who were benefitting most from the new opportunities - the new middle classes and skilled workers - were also those who were limiting the size of their families voluntarily.

The graphs and table which follow show that the concept of the "classical population curve" is as valid today in the poor countries as when it was first developed earlier in this country to explain changes in birth rates in the Western countries. In both Taiwan and Puerto Rico the birth rate has declined substantially, and the decline began before the advent of the most recent addition to development programs - "family planning" programs.

In Taiwan the birth rate reached a peak of 50 per 1000 in 1951. In 1967 it was 29 per 1000 - a decline of 21 per 1000.

In Puerto Rico the birth rate was 40 per 1000 in 1948. In 1967 it was 25 per 1000 - a decline of 15 per 1000.

The natural rate of increase in population in both countries is now down to about 2% per year. This is still somewhat high in comparison to the Western countries. But it is low in comparison to most of the developing countries. Most importantly, it is still declining in both island countries.

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* See A.M. Carr-Saunders "World Population", for a detailed exposition of the classical population curve and a detailed analysis of population trends in Western Europe.

By contrast, the birth rate in Mexico has remained approximately constant at somewhat higher than 40 per 1000 throughout the past three decades. During the same period, however, the death rate has been reduced by three fifths, from 25 per 1000 to about 10 per 1000. The result is one example of the "population explosion".

Graph 24 shows the natural increase in population for these three countries from 1935-1967. The first half of the period shows the effects of declining death rates unaccompanied by declining birth rates. In all three countries the natural rate of increase rose substantially. During the second half of this period the influence of political development on the mass of ordinary people shows equally clearly in Taiwan and Puerto Rico in the form of a reduction in the natural rate of increase - one third in Puerto Rico and two fifths in Taiwan.

Table 13 shows changes in birth rates in 12 "political development" countries during the past twenty years. The table also shows the estimated birth rates for the mid-1960s in 17 non-political countries. In the latter group except for Mexico and West Malaysia, statistics are not adequate to chart trends through the years. The current birth rate in a number of countries is not based on adequate records of vital statistics but is estimated on the basis of special studies done by professional demographers. The reader will note that in nearly all of the "non-political development" countries the birth rate runs from 35 to 45 per 1000. This is about the same level that existed in the Western countries prior to the beginning of the voluntary limitation in family size. This is also about the same level that persisted in Taiwan and Puerto Rico until a few years ago. And, it is roughly double the birth rates of the "political development" countries.

There are three countries which appear to be exceptions to the generalizations expressed above, i.e., that political development induces a decline in birth rates, - Egypt, South Korea, and West Malaysia. In the first two countries there is not yet any firm evidence of a voluntary decline in birth rates. However, in other "political development" countries there has been some time lag between the introduction of political development programs and the point when a large proportion of parents became concerned about the size of their families. This was true in the Western countries in the 19th century. It has been true in Taiwan and Puerto Rico in the past two decades. It may be that political development is still too new in Egypt and South Korea to have yet induced a change in the complex of attitudes involved in family size.

Malaysia is an exception of the opposite sort. Following World War II the birth rate rose to 46 per 1000 in 1957. It was since declined by 9 per 1000 to a rate of 37 per 1000. Though this rate is still high, the decline is nevertheless substantial. This is one of several indicators in which Malaysia's record compares favorably with the political development countries.

"Family planning" programs, i.e., efforts to reduce birth rates as well as death rates have been sponsored by central governments for as long as fifteen years in a few countries, e.g., India. They are now becoming widespread as the governments of the developing countries come to understand the seriousness of the population problem. Generally, these programs are organized in the traditional way - instituted by the central government and with little sustained organized participation by the local population. If the results of pilot projects carried out in a number of countries are a valid indication of the performance of these kinds of programs, then some progress in reducing birth rates can be expected, especially in the larger cities. But there is not likely to be a breakthrough, such as has occurred in Puerto Rico and Taiwan, without the incentives implicit in the concept of the classical population curve.

GRAPH 24 - NATURAL INCREASE IN POPULATION - TAIWAN, PUERTO RICO, MEXICO - 1935 - 1967

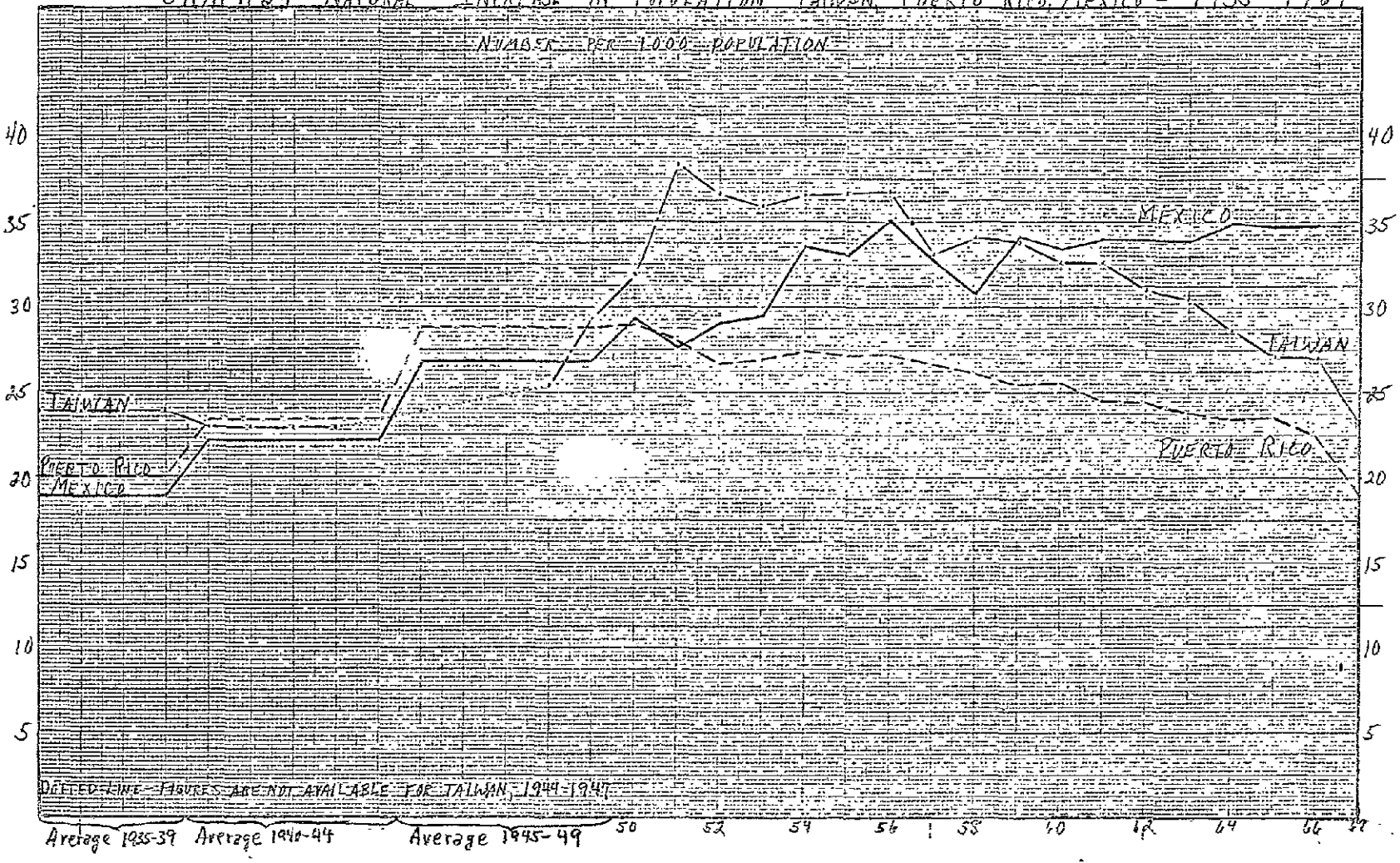

TABLE 13 BIRTH RATES, 1948-1966
(Number per 1000 Population)

POLITICAL DEVELOPMENT COUNTRIES

COUNTRY	BIRTH RATE 1948 (per 1000 population)	1966	CHANGE
JAPAN	33.7	13.7	-20.0
PUERTO RICO	40.2	26.2 2/	-14.0
POLAND	29.3	16.3 2/	-13.0
TAIWAN	39.7	28.5 2/	-11.2
BULGARIA	24.6	14.9	- 9.7
ROMANIA	23.9	14.3	- 9.6
YUGOSLAVIA	28.1	19.5 2/	- 8.6
USSR	26.5 1/	18.2	- 8.3
HUNGARY	21.0	14.5 2/	- 6.5
UNITED STATES	24.2	17.9 2/	- 6.3
ISRAEL	28.6	24.8 2/	3.8
EGYPT	42.7	41.2	- 1.5

Non-Political Development Countries

Country	Birth Rate Middle 1960s (per 1000 population)
Argentina	22-23
Brazil	44
Chile	43-45
Colombia	41-44
Cuba	35
India	40 or higher
Indonesia	around 50
Iran	48
Morocco	46
Pakistan	44
Peru	44-45
Philippines	around 50
Thailand	45 or higher
Tunisia	45
Turkey	40

	1948	1966	Change
Mexico	44.6	42.7 2/	-1.9
West Malaysia	46.1 3/	37.3	-8.8

Notes: 1/ 1950 .. 2/ 1967 3/ 1957

Section 6 - Education

The low quality of education in the poor countries is a major restraint on progress. Generally speaking, education in these countries consists of rote memorization of material which has little relevance to the activities of everyday life and which is supposed to be reproduced on examination papers in exactly the way it was presented in the text or by the teacher. Teaching students to think for themselves is not a major purpose of traditional educational systems. This kind of system is well suited to traditional governments that want to continue to control innovation because students who cannot apply their knowledge to everyday problems have little capacity to innovate. But this kind of educational system is ill-suited for development.

The "political development" countries included in this study have initiated major improvements of their educational systems as part of their modernization, moving away from rote memorization in the direction of problem-solving. In the "non-political development" countries rote memorization still predominates. However, the substantive differences in educational systems cannot be shown, since the qualitative aspect of educational systems is not subjected to statistical analysis.

Tables 12 to 15 show only the quantitative aspect of educational systems, namely, the increase in enrolment in primary, secondary, and third level schools. Even these figures do little more than suggest the proportion of school age children who spend some unknown amount of time in the classroom. A much more accurate quantitative measure than more enrolment is a combination of attendance and the length of the school year. Statistics from American history illustrate the importance of this point.

In 1870 78% of American children of primary age were enrolled in primary school. In comparison to many of today's developing countries this percentage seems high. However, average attendance was only 55% in a school year of only seven months.

By 1900 enrolment in the primary schools had risen to 88% of the age group. If only enrolment figures are taken as a measure of the quantitative aspect of a country's school system then the increase would be stated as 10% However, average attendance rose even more, to 71%, and the school year was one fourth longer. Hence, the effective quantitative increase in the United States during these three decades was not the 10% increase in enrolment but a combination of attendance and school days that was almost six times higher.

Attendance figures generally are not available for the developing countries. It is known that attendance rates, for teachers as well as students, often are very low. It probably is true that attendance is higher in the "political development" countries than in the "non-political development" countries. In the former group of countries the proportion of primary school children who enrol in secondary school, and the proportion of secondary school who enrol in some higher school of education, is very much higher than in the "non-political development" countries. This implies, of course, that students attended and completed the lower level in order to become eligible to enter the next higher level.

Tables 13 and 14 on primary and secondary enrolment which follow are "unadjusted". Table 12 is a combined primary and secondary "adjusted" ratio. The percentages on the table for primary schools were calculated* by dividing enrolment by the total number of children between the ages of 5 and 14. Similarly, the percentages on the secondary table were calculated by dividing secondary enrolment by the total number of children between the ages of 15 and 19. This method takes no account of differences among countries in the length of school. The most common number of years required to complete both primary and secondary school is 12, as in the United States. In a few countries, however, it is 11 or 10. In addition, there are some variations in the age of entrance and the legal school-leaving age. The "adjusted" scale was developed by UNESCO to adjust percentage enrolment figures to the circumstances of each country's school system. Hence, this table is more accurate, and, for this reason, is printed first.

However, the UNESCO "adjusted" figure has been calculated only for the combined enrolment in primary and secondary schools. Separate tables are included for enrolment in these two levels, in spite of the statistical deficiencies, in order to identify the significant difference between the "political development" and "non-political development" countries. This is the relatively higher enrolment and the faster rate of increase in enrolment at the secondary level, that is, the "political development" countries are demonstrating a greater capacity to teach their children something more than just literacy. Many of the "non-political development" countries have succeeded in expanding the primary level rapidly, but not the secondary level.

Table 15 shows the proportion of students who are enrolled in any school which is above the level of secondary. In addition to college it includes technical colleges and institutes, teacher training, theological students, and "higher" secondary school. The numbers include part-time as well as full time students, correspondence courses as well as classroom courses. In the United States many of these courses are part of our regular college and university system. In many of the developing countries most of these courses are less than four years, just as they were at an earlier stage in our own development. The reader will note that in Taiwan, South Korea, and Egypt the relative number of third level students is higher than in all of the much richer countries of Latin America, except Argentina.

The unusually high number in the Philippines is the result of the American emphasis on education which has been continued by the Philippines government since independence.

It can be inferred from this table that the problem of the "educated unemployed" in India is not the number of students enrolled at that level. The problem is a combination of a development policy which does not create jobs nearly as rapidly as in the three low income "political development" countries, and the excessive number of students enrolled in "traditional" courses which qualify them for jobs in a very red tape-ridden civil service rather than more productive, technological jobs.

There are no tables on numbers of teachers since these would show approximately the same pattern among countries as the statistics on student enrolment.

The reader will note that the record in South Vietnam compares favorably with the record of the "political development" countries.

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* by UNESCO

TABLE 14

INCREASE IN COMBINED ENROLMENT IN PRIMARY AND SECONDARY SCHOOLS, 1950-1964
UNESCO ADJUSTED RATIO
(Ranked by Percentage Enrolled in 1965)

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	1950	1965	CHANGE	Country	1950	1965	Change
Middle Income Countries							
1.PUERTO RICO	72	99	27	1.Venezuela	41	83	42
2.BULGARIA	63	91	28	2.Chile	62	79	17
3.POLAND	70	90	20	3.Argentina	64	75	11
4.YUGOSLAVIA	55	85	30	4.Cuba	50	72	22
5.ISRAEL	73	83	10	5.Mexico	40	71	31
6.HUNGARY	77	80	3	6.Peru	46	68	22
7.ROMANIA	47	69	22	7.Colombia	30	62	32
				8.Brazil	30	62	32
				9.West Malaysia	40	58	17
Low Income Countries							
1.TAIWAN	47	80	33	1.Philippines	89	85	-4
2.SOUTH KOREA	43	63	20	2.Tunisia	19	63	44
3.EGYPT	25	51	26	3.South Vietnam	15	57	42
				4.Thailand	44	56	12
				5.Turkey	33	55	22
				6.Indonesia	27	44	17
				7.India	21	41	20
				8.Iran	12	38	26
				9.Morocco	12	38	26
				10.Pakistan	20	32	12

TABLE 15

INCREASE IN ENROLMENT IN PRIMARY SCHOOLS, 1950-1964
Unadjusted Percentages

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	1950	1964	CHANGE	Country	1950	1964	Change
Middle Income Countries							
1.ROMANIA	59	86	27	1.Venezuela	40	71	31
2.YUGOSLAVIA	59	84	25	2.Chile	66	69	3
3.BULGARIA	61	81	21	3.Cuba	52	69	17
4.HUNGARY	83	78	-5	4.Argentina	66	68	2
5.PUERTO RICO	61	76	15	5.Mexico	39	64	25
6.POLAND	77	72	-5	6.Peru	43	59	16
7.ISRAEL	77	71	-6	7.West Malaysia	45	54	9
				8.Brazil	28	53	25
				9.Colombia	28	52	24
Low Income Countries							
1.SOUTH KOREA	53	73	20	1.Philippines	74	65	-9
2.TAIWAN	48	66	18	2.Tunisia	18	62	44
3.EGYPT	26	46	20	3.Thailand	52	61	9
				4.South Vietnam	16	60	44
				5.Turkey	33	48	15
				6.Indonesia	29	45	16
				7.India	21	40	19
				8.Iran	16	37	21
				9.Morocco	11	34	23
				10.Pakistan	16	26	10

TABLE 16

INCREASE IN ENROLMENT IN SECONDARY SCHOOLS, 1950-1964
Unadjusted Percentages

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	1950	1964	CHANGE	Country	1950	1964	Change
			Middle Income Countries				
1. PUERTO RICO	49	86	37	1. Chile	18	48	30
2. POLAND	20	71	51	2. Argentina	21	46	25
3. ISRAEL	22	60	38	3. West Malaysia	7	39	32
4. BULGARIA	26	50	24	4. Venezuela	6	36	30
5. ROMANIA	21	35	14	5. Cuba	10	30	20
6. YUGOSLAVIA	12	34	22	6. Brazil	10	27	17
7. HUNGARY	14	30	16	7. Peru	9	26	17
				8. Colombia	7	25	18
				9. Mexico	4	21	17
			Low Income Countries				
1. TAIWAN	15	58	43	1. India	14	34	20
2. SOUTH KOREA	20	39	19	2. Philippines	22	33	11
3. EGYPT	7	29	22	3. Pakistan	15	25	10
				4. South Vietnam	2	21	19
				5. Turkey	6	20	14
				6. Tunisia	9	20	11
				7. Iran	5	19	14
				8. Thailand	7	14	7
				9. Morocco	2	13	11
				10. Indonesia	3	10	7

TABLE 17

INCREASE IN THIRD LEVEL STUDENTS PER 100,000 PEOPLE, 1950-1964

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRIES	1950	1964	CHANGE	Country	1950	1964	Change
Middle Income Countries							
1. BULGARIA	381	1260	879	1. Argentina	483	1225	742
2. PUERTO RICO	548	1363	815	2. Venezuela	139	491	352
3. YOGOSLAVIA	369	884	515	3. Chile	160	430	270
4. ISRAEL	403	742	339	4. Peru	202	423 [2]	221
5. ROMANIA	325	651	326	5. Mexico	136	294	158
6. POLAND	473	742	269	6. Colombia	94	214	120
7. HUNGARY	284	482	198	7. West Malaysia	5	113	108
				8. Brazil	98	181	83
Low Income Countries							
1. TAIWAN	87	530	443	1. Philippines [1]	902	1189 [2]	287
2. SOUTH KOREA	126	516	390	2. Turkey	118	293	175
3. EGYPT	167	500	335	3. India	113	284 [3]	171
				4. South Vietnam	12	149	137
				5. Pakistan	93	227	136
				6. Iran	34	108	74
				7. Morocco	15	78	63
				8. Indonesia	8	69 [2]	61
				9. Tunisia	50	101	51
				10. Thailand	141	175	34

Notes:
1. See p. 86 for explanation of the very high figures for the Philippines.
2. 1963.
3. 1961.

Section 7 - Health

With respect to health the differences between the "political development" and "non-political development" countries can be summarized quickly. People live longer and better in the former. Medical services are better. The death rate is lower. The rate of improvement is faster. These things are true in considerable measure because the "political development" countries have succeeded in improving medical services, water supplies, and sanitary practices throughout the vast number of rural villages.

One comment to be made about the tables showing how health relates to political development is that there is a lack of reliable data for many of the "non-political development" countries. A number of the figures on the tables for these countries are estimates. For some countries there is no information on trends. A few countries are missing because even reliable estimates are not yet available. Traditionally, the governments of the poor countries have been indifferent to the type of information which is called "vital statistics". They have not tried to collect and keep up-to-date accurate information on the size of their population, the number of babies born each year, the number of people who die each year, or why they die. This attitude is now changing rapidly, but the change is recent. In the absence of reliable vital statistics, the United Nations is preparing estimates on the basis of sample studies carried out by professional demographers and statisticians.

There are four tables, as follows:

1. Infant Mortality. In the "political development" countries the infant mortality rate is declining rapidly although it is still higher than in the Western countries. In some of the "non-political development" countries the tragically high rate is one of the best indicators there is of the precarious nature of life itself in a subsistence village. The reader will note that in Taiwan the rate is substantially lower than in any of the "non-political development" countries and lower than most of the "political development" countries, including the United States.

2. and 3. Life Expectancy and the Death Rate. Of these two tables it need only be said that people in the "political development" countries live longer. Life expectancy in these countries is now almost as many years as in the Western countries.

4. Ratio of Doctors to the Population. In all of the middle income "political development" countries the number of doctors is close to being adequate. In all but one of them, Yugoslavia, the number of people per doctor is around 1000 or less. In Yugoslavia it is 1200. In the middle income "non-political development" countries the shortage of doctors is considerable in Chile, Brazil, Colombia, and West Malaysia.

Among the low income countries there are two anomalies, the very large number of doctors in the Philippines and a small decrease in the relative number of doctors in Taiwan during the past ten years. This is the only development measure in this study on which Taiwan's record is unimpressive. However, the reader will have noticed that on the first three tables, which are measures of the over-all quality of health services, Taiwan's record is one of the best. The explanation of this apparent contradiction involves a subject upon which adequate information is not available to the author. Hence, no table can be included. This is the ratio between doctors and other types of medical personnel.

Too many of the "non-political development" countries have concentrated on the training of doctors, forgetting that modern technology requires relatively more workers at the middle and lower levels of technology than at the top. In medicine this means large numbers of nurses, technicians, midwives, sanitarians, health educators and others. In the United States there are two nurses and four medical technicians for each doctor. In some of the West European countries the proportion of nurses and technicians is even higher, particularly in countries where most babies are still delivered by trained midwives rather than by doctors. In some of the poor countries there are actually more doctors than there are nurses or more doctors than there are trained technicians, and the proportions are everywhere out of balance. While the ratio of doctors to the population suggests serious deficiencies in medical service, in fact, Taiwan is attaining a reasonably well balanced combination of doctors, nurses, midwives, and other medical personnel, and, hence, a reasonable balance of medical services.

TABLE 18

INFANT MORTALITY, 1948-1966
(Per 1000 Live Births)

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	1948	1966	CHANGE	Country	1948	1966	Change
Middle Income Countries							
1. ISRAEL [1]	51.5	21.6	-29.9	1. Venezuela	97.8	47.7 [3]	-50.1
2. BULGARIA	118.2	32.2	-86.0	2. West Malaysia	89.6	50.0 [3]	-39.6
3. PUERTO RICO	78.3	36.7	-41.6	3. Argentina	69.5	60.7	-8.8
4. HUNGARY	94.1	38.4	-55.7	4. Peru	109.0	66.5 [3]	-42.5
5. POLAND	111.1	38.8	-72.3	5. Colombia	136.1	82.4 [3]	-53.7
6. ROMANIA	142.7	46.6	-96.1	6. Chile	147.0	107.1 [3]	-39.9
7. YUGOSLAVIA	102.1 [2]	61.3	-40.8	7. Brazil	na	125-150 [4]	na
Low Income Countries							
1. TAIWAN	56.6	20.2	-36.4	1. Philippines	114.4	72.9 [3]	-41.5
2. EGYPT	138.6	118.6 [5]	-20.0	2. India	na	139.0 [4]	na
				3. Indonesia	na	125.0 [4]	na
				4. Morocco	na	149.0 [4]	na
				5. Pakistan	na	146.0 [4]	na
Comparative Countries							
1. SWEDEN	23.2	12.6 [6]	-10.6				
2. JAPAN	61.7	19.3	-42.4				
3. UNITED STATES	32.0	23.7	-8.3				
4. USSR	81.0	26.1	-54.9				

Notes:
1. Jewish population only.
2. 1949.
3. 1965.
4. Estimated as approximate rate for mid-1950s.
5. 1963.
6. This is the world's lowest rate.

General Note: A few of the figures on this table are taken from the Statistical Abstract of the United States. Table 1258.

TABLE 19 LIFE EXPECTANCY

Country	Year of Estimate	Number of years	
		Men	Women
1. ISRAEL	1965	70.5	73.2
2. BULGARIA	Average, 1960-62	67.8	71.3
3. JAPAN	1965	67.7	73.0
4. PUERTO RICO	Average, 1959-61	67.1	71.2
5. ROMANIA	1963	65.4	70.3
6. POLAND	Average, 1960-61	64.8	70.5
7. TAIWAN	1964	64.1	68.4
8. Argentina	1961	63.1	68.9
9. YUGOSLAVIA	Average, 1961-62	62.4	75.6
10. Pakistan	1962	53.7	48.8
11. Thailand	1960	53.6	58.7
12. EGYPT	1960	51.6	53.8
13. SOUTH KOREA	Average, 1955-60	51.1	53.7
14. Morocco	1960	49.6	

TABLE 20 DEATH RATES
(Number per year per 1000 people)

POLITICAL DEVELOPMENT COUNTRIES				Non-Political Development Countries			
COUNTRY	AVERAGE 1945-49	1966	DECREASE	Country	Average 1945-49	1966	Decrea
		Middle Income Countries					
1.PUERTO RICO	12.2	6.3	-5.9	1.West Malaysia	12.6 [2]	7.6	-5.0
2.ISRAEL [1]	6.5	6.3	-.2	2.Argentina	9.6	8.2	-1.4
3.POLAND	11.4	7.3	-4.1	3.Mexico	17.8	9.6	-8.2
4.YUGOSLAVIA	13.2	8.0	-5.2	4.Chile	17.2	10.4	-6.8
5.ROMANIA	17.5	8.2	-9.3	5.Brazil	na	11-13 [3]	na
6.BULGARIA	13.3	8.3	-5.0	6.Colombia	na	14-17 [3]	na
7.HUNGARY	14.8	10.0	-4.8				
		Low Income Countries					
1.TAIWAN	15.1	5.4 [4]	-9.7	1.Tunisia	13.3	10.8	-2.5
2.EGYPT	23.0	14.8	-8.2	2.Venezuela	na	9-12 [3]	na
				3.India	27.4 [5]	12.9 [3]	-14.5
				4.Peru	na	14-15 [3]	na
				5.Pakistan	na	15.4 [3]	na
				6.Morocco	na	18.7 [3]	na
				7.Indonesia	na	21.4 [3]	na
				8.Iran	na	24.5 [3]	na
		Comparative Countries					
1.JAPAN	16.8	6.8	-10.0				
2.USSR	9.1 [2]	7.3	-1.8				
3.UNITED STATES	10.0	9.5	-.5				

Notes:
1. Jewish population only.
2. 1953.
3. Estimated approximate rates for 1960s.
4. 1965.
5. 1941-1951 average.

General Note: A few of the figures on this table are also taken from the Statistical Abstract of the United States, Table 1258.

TABLE 21 RATIO OF DOCTORS TO THE POPULATION

Country	Date of 1st Year	Number of People Per Doctor 1st Year	1965	Change	% Increase in No. of Doctors
		Middle Income Countries			
1.ISRAEL	1951	435	410	-25	79
2.BULGARIA	1951	4030	605	-3425	655
3.HUNGARY	1953	840	630	-210	42
4.Argentina	1948	890	680	-210	74
5.ROMANIA	1954	805	720	-85	24
6.POLAND	1947	3110	795	-2315	405
7.PUERTO RICO	1950	2335	975	-1360	305
8.YUGOSLAVIA	1950	3180	1200	-1980	235
9.Cuba	1948	1705	1245	-460	98
10.Venezuela	1950	2290	1300	-990	235
11.Peru	1952	4210	1560	-2650	280
12.Mexico	1949	2085	1815	-270	102
13.Chile	1951	1900	2100	200	26
14.Brazil	1950	2740	2360	-380	80
15.Colombia	1952	2845	2465	-380	74
16.West Malaysia	1953	8390	5890	-2500	104
		Low Income Countries			
1.Philippines	1951	12,300	1300	-11,000	1330
2.EGYPT	1950	4265	2370	-1895	155
3.TAIWAN	1956	2319	2510	191	24
4.SOUTH KOREA	1953	5710	2710	-3000	180
5.Turkey	1951	3295	2860	-435	66
6.Iran	1952	6640	3840	-2800	180
7.India	1949	6395	5780	-515	41
8.Pakistan	1950	34,300	6200	-28,100	660
9.Thailand	1954	7510	8820	1310	18
10.Tunisia	1950	6760	8990	2230	-8
11.Morocco	1951	11,370	12,120	750	37
12.Indonesia	1954	75,700	34,800	-40,900	155
		Comparative Countries			
1.USA	1950	760	675	-85	-
2.JAPAN	1951	1100	900	-200	-

Appendices

Appendix 1. Transposed Agricultural Productivity

Appendix 2. Completion of Tables 9 and 10 on Exports

Appendix 3. Explanation of the Indices for Cereal Crops.

Appendix 1.* Transposed Agricultural Productivity

Part 1. - India, Egypt, Taiwan, 1964

1A. Actual Foodgrain Production in India, 1964

	Area Harvested (000 acres)	Yield (lbs. per acre)	Total Production (000 metric tons)
1. Millet & Sorghum	90,477	440	18,053
2. Rice	89,859	1436	58,551
3. Wheat	33,357	651	9,853
4. Corn	11,411	970	4,658
5. Barley	6,855	651	2,038
All Cereals	231,959	886	93,153
		Imports	6,364
		Consumption	100,517
		Imports as a % of Consumption	6.3%

1B. Hypothetical Foodgrain Production in India at Egyptian Productivity Levels, 1964

1. Millet & Sorghum	90,477	3167	130,086
2. Rice	89,859	4497	183,275
3. Wheat	33,357	2462	37,157
4. Corn	11,411	2471	12,792
5. Barley	6,855	2462	7,656
All Cereals	231,959		370,966

1C. Hypothetical Foodgrain Production in India at Taiwan Productivity Levels, 1964

1. Millet & Sorghum	90,477	910	37,450
2. Rice	89,859	3256	132,729
3. Wheat	33,357	1874	28,348
4. Corn	11,411	1874	91,698
5. Barley	6,855	1134	3,551
All Cereals	231,959		211,776

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* See pp 18-19 above for discussion of the tables in this Appendix.

Part 2 - EGYPT, 1964

2A. Actual Foodgrain Production in Egypt

	Area Harvested (000 acres)	Yield (lbs.p.acre)	Production (000 metric tons)
1. Corn	1,725	2471	1934
2. Wheat	1,344	2462	1500
3. Rice	998	4497	2036
4. Millet & Sorghum	514	3167	740
5. Barley	126	2462	141
All Cereals	4,707	2975	6351
		Net Imports	1482
		Consumption	7833
	Imports as a % of Consumption		18.9%

2B. Hypothetical Foodgrain Production in Egypt at Indian Productivity Levels

1. Corn	1,725	970	705
2. Wheat	1,344	651	397
3. Rice	998	1436	650
4. Millet & Sorghum	514	440	103
5. Barley	126	651	37
All Cereals	4,707		1892
		Net Imports	5941
		Consumption	7833
	Imports as a % of Consumption		75.8%

Part 3. TAIWAN, 1964

3A. Actual Foodgrain Production in Taiwan

	Area Harvested (000 acres)	Yield (lbs. per acre)	Production (000 metric tons)
1. Rice	1889	3256	2794
2. Corn	49	1874	42
3. Wheat	22	1874	20
4. Millet & Sorghum	22	910	8
5. Barley	2	1134	1
All Cereals	1984	3184	2865
		Net Imports	178
		Consumption	3043
		Imports as a % of Consumption	5.8%

3B. Hypothetical Foodgrain Production in Taiwan at India Productivity Levels

1. Rice	1889	1436	1232
2. Corn	49	970	20
3. Wheat	22	651	7
4. Millet & Sorghum	22	440	4
5. Barley	2	651	1
All Cereals	1984		1264
		Net Imports	1779
		Consumption	3043
		Imports as a % of Consumption	58.5%

Part 4. THAILAND, EGYPT, AND TAIWAN, 1966

Rice Surplus Available for Export - Thailand

	Thailand Actual	At Egyptian Output Levels	At Taiwan Output Levels
Rice, Acres Harvested	16,996	16,996	16,996
Yield per Acre (pounds)	1,535	3,676	3,346
Production (000 metric tons)	11,846	28,337	25,793
Consumption (" " ")	10,341	10,341	10,341
Exportable Surplus (")	1,515	17,996	15,452

General Note: The calculation of consumption figures should reflect the net increase or decrease in stocks. This figure is not available. However, it would be a small proportion of total consumption and would have no appreciable effect on the significance of these tables.

Appendix 2 TABLE 9. (Cont'd.). EXPORTS AS A MEASURE OF DIVERSIFICATION OF ECONOMIC ACTIVITY, EARLY 1950s-1966
(U.S. $ Per Capita)

	EGYPT			Thailand			Morocco		
	1953	1966	Change	1956	1966	Change	1950	1966	Change
Agricultural Exports	17.02	18.07	1.05	11.92	17.89	5.97	11.71	18.39	6.68
Traditional	15.61	14.34	-1.27	9.63	9.44	-.19	9.15	13.81	4.66
Non-Traditional	1.41	3.73	2.32	2.29	8.45	6.16	2.56	4.58	2.02
Non-Agricultural Exports	.71	2.12	1.41	1.56	3.19	1.63	5.99	12.82	6.83
Oil and Mineral Ores	.13	1.62	1.49	1.24	2.68	1.44	5.99	11.50	5.51
All Other	.58	.50	-.08	.32	.51	.19	0	1.32	1.32
Sum of "Non-Traditional" and "All Other"	1.99	4.23	2.24	2.61	8.96	6.35	2.56	5.90	3.34
"Sum" Amount as a % of Total Exports	11.2%	21.0%	9.8%	19.3%	42.1%	22.8%	12.1%	18.9%	6.8%

	Pakistan			Indonesia			Tunisia		
	1953	1966	Change	1954	1966	Change	1950	1966	Change
Agricultural Exports	5.11	5.31	.20	6.80	3.93	-2.87	18.89	17.27	-1.62
Traditional	5.07	4.58	-.49	6.22	3.79	-2.43	17.70	11.89	5.81
Non-Traditional	.04	.73	.69	.58	.14	-.44	1.19	5.38	4.19
Non-Agricultural Exports	.02	.40	.38	3.56	2.97	-.59	6.40	14.12	7.72
Oil and Mineral Ores	.01	.09	.08	3.53	2.88	-.65	6.40	8.57	2.17
All Other	.01	.31	.30	.03	.09	.06	0	5.55	5.55
Sum of "Non-Traditional" and "All Other"	.05	1.04	.99	.61	.23	-.38	1.19	10.93	9.74
"Sum" Amount as a % of Total Exports	.9%	18.2%	17.3%	5.9%	3.3%	-2.6%	3.9%	34.0%	30.1%

TABLE 9 (Cont'd.). EXPORTS AS A MEASURE OF DIVERSIFICATION OF ECONOMIC ACTIVITY, EARLY 1950s-1966
(U.S. $ Per Capita)

	Peru			Venezuela			South Vietnam		
	1950	1966	Change	1950	1966	Change	1954	1963	Change
Agricultural Exports	13.41	29.69	16.28	5.53	3.87	-1.66	4.73	4.94	.21
Traditional	13.26	15.40	2.14	5.53	2.37	-3.16	4.67	4.78	.11
Non-Traditional	.15	14.29	14.14	0	1.50	1.50	.06	.16	.10
Non-Agricultural Exports	8.78	19.31	10.53	222.79	299.54	76.75	.65	.07	-.58
Oil and Mineral Ores	8.78	18.98	10.20	222.79	297.26	74.47	.65	.00	-.65*
All Other	0	.33	.33	0	2.28	2.28	0	.07	.07
Sum of "Non-Traditional" and "All Other"	.15	14.62	14.47	0	3.78	3.78	.06	.23	.17
"Sum" Amount as a % of Total Exports	.6%	29.6%	29.0%	0%	1.2%	1.2%	1.0%	4.6%	3.6%

	Philippines			Chile		
	1953	1966	Change	1950	1966	Change
Agricultural Exports	15.98	21.58	5.60	5.21	4.15	-1.06
Traditional	14.39	17.96	3.57	5.21	2.92	-2.29
Non-Traditional	1.59	3.62	2.03	0	1.23	1.23
Non-Agricultural Exports	1.95	4.02	2.07	38.16	72.22	34.06
Oil and Mineral Ores	1.59	3.62	2.03	38.00	72.17	34.17
All Other	.36	.40	.04	.16	.05	-.11
Sum of "Non-Traditional" and "All Other"	1.95	4.02	2.07	.16	1.28	1.12
"Sum" Amount as a % of Total Exports	10.9%	15.6%	4.7%	.3%	1.6%	1.3%

* The reduction in the export of coal by South Vietnam was primarily war-induced.

TABLE 10. EXPORTS AS A MEASURE OF INDUSTRIAL PROGRESS, EARLY 1950s-1966
(U.S. $ Per Capita)

	EGYPT			Thailand			Morocco		
	1953	1966	Change	1956	1966	Change	1950	1966	Change
Processed Non-Agricultural Products Less Refining	.27	.69	.42	.28	.56	.28	0	1.16	1.16
Processed Agricultural Products	1.01	5.57	4.56	1.00	.57	-.43	4.44	7.34	2.90
Total Processed Exports (Other than Refining)	1.28	6.26	4.98	1.28	1.13	-.15	4.44	8.50	4.06
Unprocessed Exports (Including Refining)	16.43	13.93	-2.52	12.20	19.95	7.75	13.26	22.71	9.45
"Processed" as a % of Total Exports	7.2%	31.0%	23.8%	9.5%	5.3%	-4.2%	21.0%	27.2%	6.2%

	Pakistan			Indonesia			Tunisia		
	1953	1966	Change	1954	1966	Change	1950	1966	Change
Processed Non-Agricultural Products Less Refining	0	.33	.33	.04	.02	-.02	0	3.32	3.32
Processed Agricultural Products	.06	2.75	2.69	.44	.28	-.16	10.76	11.15	.39
Total Processed Exports (Other than Refining)	.06	3.08	3.02	.48	.30	-.18	10.76	14.47	3.71
Unprocessed Exports (Including Refining)	5.07	2.63	-2.44	9.88	6.60	-3.28	14.53	17.72	3.19
"Processed" as a % of Total Exports	1.1%	53.8%	52.7%	4.6%	4.3%	-.3%	35.7%	45.0%	9.3%

TABLE 10 (Cont'd). EXPORTS AS A MEASURE OF INDUSTRIAL PROGRESS, EARLY 1950s-1966
(U.S. $ Per Capita)

	Peru			Venezuela			South Vietnam		
	1950	1966	Change	1950	1966	Change	1954	1963	Change
Processed Non-Agricultural Products Less Refining	0	.32	.32	0	2.32	2.32	0	.34	.34
Processed Agricultural Products	0	10.66	10.66	0	.46	.46	.10	.10	0
Total Processed Exports (Other than Refining)	0	10.98	10.98	0	2.78	2.78	.10	.44	.34
Unprocessed Exports (Including Refining)	22.19	38.02	15.83	230.49	301.33	70.84	5.68	4.57	1.11
"Processed" as a % of Total Exports	0%	22.2%	22.2%	0%	.9%	.9%	1.7%	8.8%	7.1%

	Philippines			Chile		
	1953	1966	Change	1950	1966	Change
Processed Non-Agricultural Product Less Refining	.24	.26	.02	0	0	0
Processed Agricultural Products	2.33	6.07	3.74	1.30	1.93	.63
Total Processed Exports (Other than Refining)	2.57	6.33	3.76	1.30	1.93	.63
Unprocessed Exports (Including Refining)	15.36	19.27	3.91	45.33	78.20	32.87
"Processed" as a % of Total Exports	14.3%	24.6%	10.3%	2.8%	2.4%	-.4%

Appendix 3. The Indices for Cereal Crops

The Index on Relative Productivity was calculated by comparing yields per acre in each of the developing countries with yields per acre in the country with the highest yields from among those countries which can be considered important producers of the crop and in which the crop is one of the major cereals within the country. Because of this combination of some degree of importance and productivity the country listed below as the high productivity country is not always the country with the highest yield in the world. For example, rice yields in Spain are somewhat higher than in Japan. However, rice is a minor crop in Spain, the amount harvested being only 150,000 acres. Japan harvests around 8 million acres. In addition, Spain is a relatively low productivity country except for rice. Productivity in the leading country was taken as 100. Yields in other countries were then calculated as a percentage of that figure.

For the Index of the Rate of Progress the amount of increase in yields per acre during the 18 year period covered by the tables for each of the high productivity countries for 1964-66 was taken as the base. The increase in each crop in other countries was then taken as a percentage of that figure.

On both indices the percentages for each crop were combined into a single percentage weighted according to the relative acreage of each crop. Thus, for Japan the figures for rice are 77.65% of the total figure since rice acreage is 77.65% of total cereals acreage. Similarly, wheat is 10.04% of the index for Japan, and so forth for all crops for all the countries.

The table below lists the high productivity countries for 1948-50, for 1964-66 and the amount of increase during this period for the latter group. The productivity figures for each crop for the countries are shown on the tables in the Agricultural Appendix.

High Productivity Countries, 1948-50

Crop	Country	Pounds per Acre
Rice	Japan	3836
Wheat	Netherlands	3200
Corn	Canada	2694
Barley	Netherlands	2986
Oats	Denmark	2734
Millet & Sorghum	Egypt	2327
Rye	Netherlands	2205
Mixed Grain	Denmark	2305

High Productivity Countries, 1964-66

Crop	Country	Pounds p. Acre	Increase 1948-50 to 1964-66 (Pounds per Acre)
Rice	Japan	4476	640
Wheat	Netherlands	3930	730
Corn	Canada	4521	1827
Barley	Denmark	3504	521
Oats	Denmark	3394	660
Millet & Sorghum	Egypt	3367	1040
Rye	West Germany	2472	565
Mixed Grain	Denmark	3099	791